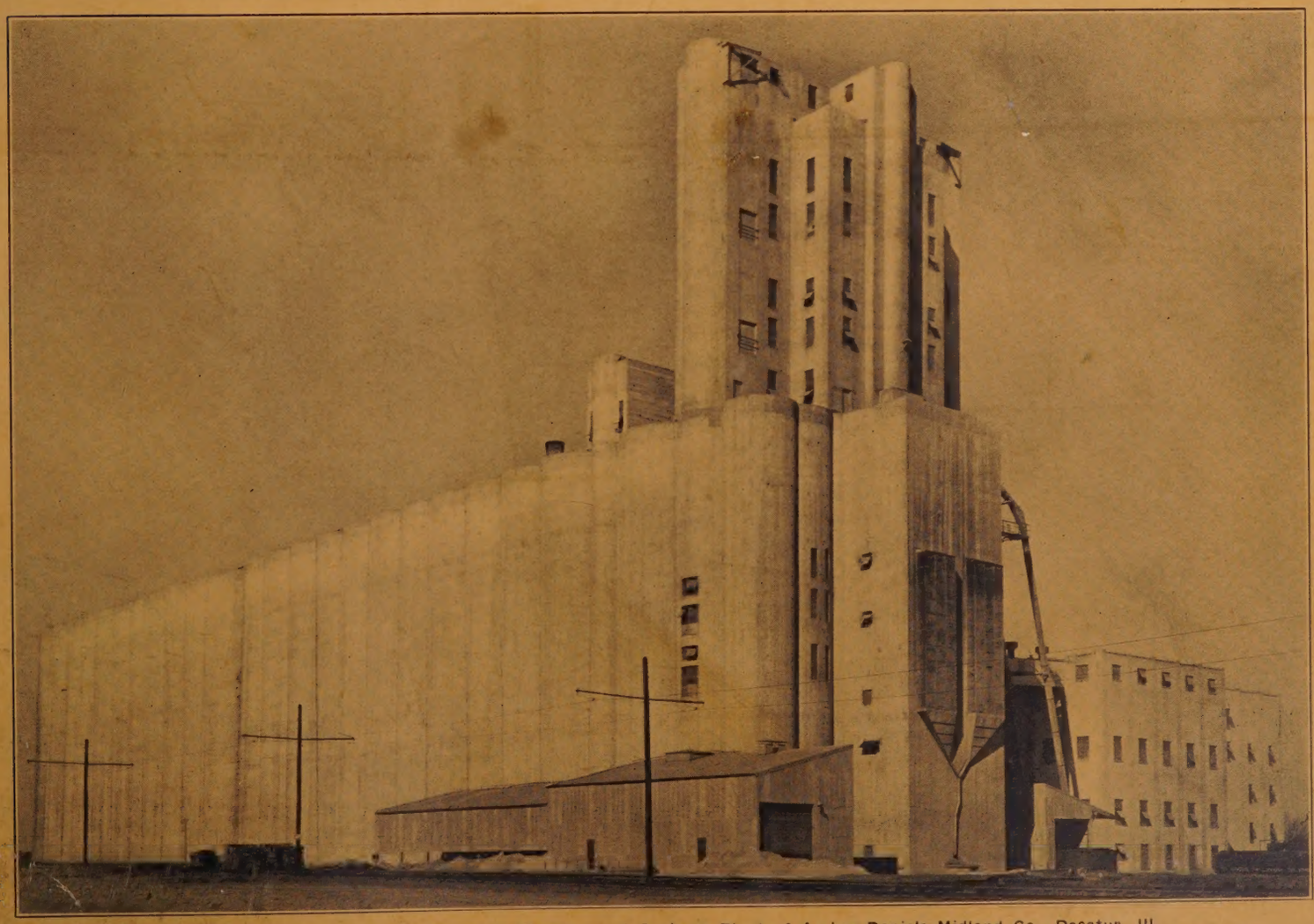
Vol. LXXXVI. No. 1 Chicago, Ill., U. S. A., January 8, 1941 Price $2.00 Per Year. 25 Cents Per Copy

GRAIN & FEED JOURNALS CONSOLIDATED

A Merger of Grain Dealers Journal, American Elevator & Grain Trade, Grain World and Price Current-Grain Reporter



5,000,000 bushel reinforced Concrete Elevator and Soybean Plant of Archer-Daniels-Midland Co., Decatur, Ill.
(For Description See Page 17)

Directory of the Grain Trade

In Organized Markets Only Members of the Local Grain Exchange Will Be Listed

HAVING YOUR name in this directory will introduce you to many old and new firms during the year, whom you do not know or could not meet in any other way. Many new concerns are looking for connections, seeking an outlet or an inlet, possibly in your territory. It is certain that they turn to this recognized Directory, and act upon the suggestions it gives them. The cost is only $10 per year.

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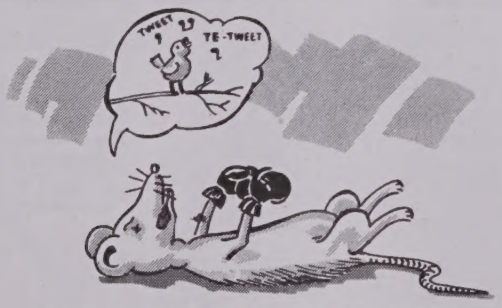

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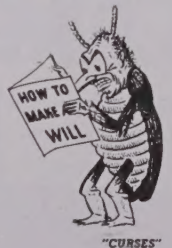

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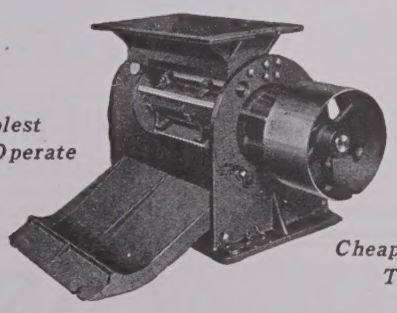

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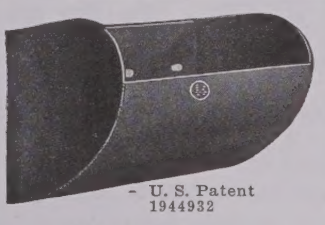

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Grain & Feed Journals
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332 South La Salle St. Chicago, Ill.

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332 So. La Salle St., Chicago

A merger of Grain Dealers Journal, American Elevator & Grain Trade, Grain World and Price Current-Grain Reporter.

Gentlemen:—In order to keep us posted regarding what is going on in the grain and feed trades outside our office, please send us the *Grain & Feed Journals* twice each month. Enclosed find Two Dollars for one year.

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WANTED—Coal crusher; also bucket elevator. W. G. Sutton, Minonk, Ill.

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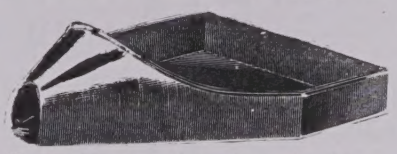

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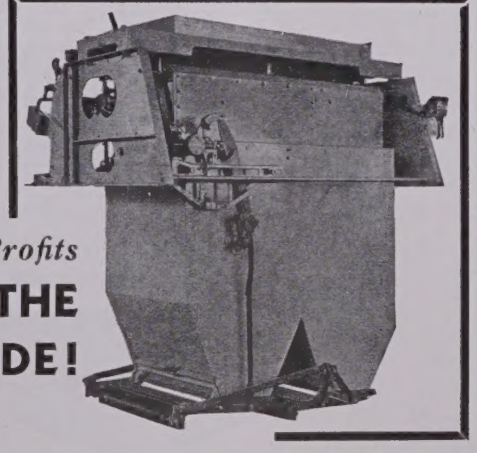

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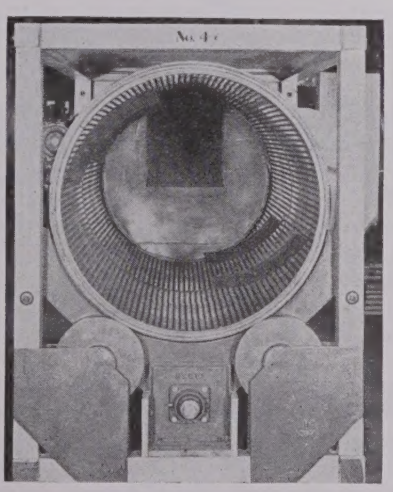

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A merger of
GRAIN DEALERS JOURNAL
Established 1898
AMERICAN ELEVATOR & GRAIN TRADE
Established 1882
THE GRAIN WORLD
Established 1928
PRICE CURRENT - GRAIN REPORTER
Established 1844

Published on the second and fourth Wednesdays of each month in the interests of better business methods for progressive wholesale dealers in grain, feed and field seeds. It is the champion of improved mechanical equipment for facilitating and expediting the handling, grinding and improving of grain, feeds and seeds.

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THE ADVERTISING value of the Grain & Feed Journals Consolidated as a medium for reaching progressive grain, feed and field seed dealers and elevator operators is unquestioned.

Advertisements of meritorious grain elevator and feed grinding machinery and of responsible firms who seek to serve grain, feed and field seed dealers are solicited. We will not knowingly permit our pages to be used by irresponsible firms for advertising a fake or a swindle.

LETTERS on subjects of interest to those engaged in the grain, feed and field seed trades, news items, reports on crops, grain movements, new grain firms, new grain elevators, contemplated improvements, grain receipts, shipments, and cars leaking grain in transit, are always welcome. Let us hear from you.

QUERIES for grain trade information not found in the Journal are invited. The service is free.

CHICAGO, ILL., JANUARY 8, 1941

AS a fungicide permanently effective for seed grains, ethyl mercuric phosphate has established its outstanding value.

WITHOUT striving to earn a reputation as a market forecaster anyone safely can predict that eventually the price of wheat will break thru all highs of the past ten years and adjust itself to a war level.

A DECISION by the Interstate Commerce Commission in the matter of reshipping rates east on grain received via Illinois waterway before navigation opens this spring would be helpful to the large interests involved.

ALTHO WINTER wheat may be grown successfully during a single year north of its regular habitat, the crop chemist of a leading grain corporation, who has studied the extension of the winter variety northward, cautions against these attempts, having found that outside of Minturki or Marmin they are not permanently successful.

STORAGE of soybeans offers no problem when they are sound and not excessively damp; but their large oil content permits deterioration to spread from a very small focus of infection created by a few bushels of spoiled beans.

LOW TEMPERATURES help to congeal heavy lubricants and make operation of all machinery more difficult. Those still using heavy summer oil would facilitate the operation of all machinery by running it empty or without load for a time at starting.

THE American Farm Buro Federation rightly is viewing with misgivings the centralization of control over agriculture at Washington and is advocating a transfer of the authority and funds from the federal burocracy to state com'ites, the personnel of which is not dictated by the federal administration.

ELEVATOR men selling soybean seed to their farmer patrons are cautioned against distributing alleged new varieties that are but a revival of a variety found wanting 15 years ago, such as the Midwest soybean, which is being sold as high as $25 per bushel, tho of less value than the Dunfield or Manchu.

THE corn loan program must be having considerable effect in holding corn back from market, as in the year beginning October, 1939, only 7.8 per cent of the supply reached the 10 terminal markets, compared with 12.8 per cent received two years earlier, as reported by the U. S. Dept. of Agriculture.

BEGINNING of state legislative sessions this January offers a good opportunity to introduce and have passed bills to regulate the itinerant trucker who is making life miserable for established merchants paying taxes on a real investment and capable of giving real service to the community at all times.

INVENTIVE talent is still being directed to the slow points in grain handling, two of which are the bottlenecks of getting the grain out of the car or out of the boat. We have the car dumper and now one inventor has a new car unloader; but we still lack a mechanical device to supersede the antiquated marine leg in taking grain out of ships.

GOVERNMENT buros are so eager to expand their powers it is refreshing to have an examiner for the Interstate Commerce Commission find that loaders and helpers of drivers are not subject, as are the drivers, to the jurisdiction of the Commission. The Wage and Hour Division, on the contrary, goes so far as to hold the operators of passenger elevators in office buildings are under the Act because some of the tenants who ride the elevators are engaged in interstate commerce. The interstate commerce heresy seems to be more contagious than smallpox.

A PRODUCER of millfeed should not be charged with fraud if his feed falls short of the standard for protein, when the soft winter wheat crop of 1940 makes it impossible for him to turn out feed with the normal protein content.

SEASONAL EXEMPTION ought not to be denied those elevators having a rush of over 50 per cent of receipts in 14 weeks just because some elevators differently situated enjoy a trade more evenly distributed throughout the year. Altho the exemption if granted the entire industry would apply to these favorably located houses they would not take advantage of it since the operators would not place their workmen on extra time if there was not any work to do overtime.

THE Pacific Northwest is normally a wheat exporting region; in fact, without generous exports the market is stagnant and prices too low. Hence the increase in the acreage of wheat in Washington state to an all-time record of 1,585,000, against 1,043,000 a year ago, points to a confidence on the part of growers that the federal government will continue to subsidize their exports. The burden on the government promises to be considerable since the condition of 98 per cent is the highest Dec. 1 condition reported since 1927.

AIRPLANES and other war material are not being produced at the present time in the desired volume for national defense and aid to Great Britain, the principal reason for the shortage being burocratic interference that prevents industrialists from going ahead. In a few years it may be discovered that political interference is cutting down the production of crops. Why not in this emergency cancel all farm control and let the growers go full steam ahead? When wheat gets up to $3 per bushel and corn to $2, the farmer will curse the burocrats who prevented him from producing a lot to sell.

A BLESSING it would be to the soybean processors to have bullish enthusiasm transferred from the Chicago soybean pit to the Memphis oil meal pit. Speculation is keeping up the price of the bean to the disadvantage of processors, and advantage of growers, as is apparent when we consider that the open interest in soybean futures on the Chicago Board of Trade is fully 10 per cent of the crop, while in wheat it is less than 5 per cent of the crop of North America. The present discount of $2 a ton on soybean meal compared with cottonseed meal at Memphis is unwarranted, considering the intrinsic value of the feeds. A manipulator who understood his business could run a bull movement in future soybean oil meal, while protecting himself by corresponding short sales of cotton meal.

SEEDSMEN of repute who in past years have sedulously complied with all state regulations as to labeling will be spared the unfair competition of unscrupulous or careless dealers who have been disregarding with impunity the state laws that the federal government is now pledged to enforce.

INCREASED abandonment of loan corn to the government is indicated by the decrease from 552 to 420 million bushels in the total amount sealed as collateral for loan, and the increase Apr. 1 to mid-December from 90 to 190 million bushels in the amount owned outright by the government. Thus gradually the government is getting more deeply involved in the grain business. Its large holdings will not help to advance the market price above 65 cts. per bushel.

Grain Elevators and Feed Mills Continue to Go Up in Smoke

The fact that 97 grain elevators were destroyed by fire and 96 were damaged during 1940 helps to prove that grain merchants continue to erect grain storehouses of combustible materials and then neglect to provide ample facilities for preventing and extinguishing fires when discovered.

These fires as reported in the news columns of the GRAIN AND FEED JOURNALS were discredited to the following states:

	Destroyed	Damaged		Destroyed	Damaged
California	1	..	N. Mexico	2	..
Colorado	4	2	No. Dak.	6	3
Georgia	..	1	Ohio	5	7
Illinois	13	4	Oklahoma	9	5
Indiana	6	5	Oregon	1	2
Iowa	11	5	Rhode Isl.	1	..
Kansas	5	10	So. Dak.	2	5
Michigan	3	8	Texas	11	2
Minnesota	9	10	Utah	..	1
Missouri	4	6	Wash	1	5
Montana	..	3	Wisconsin	1	3
Nebraska	2	9			
Total				97	96

The feedmill operators, according to our news columns, experienced almost as many fires, but of course their losses were not as heavy. Their record shows 92 mills destroyed and 72 damaged in the following states:

	Destroyed	Damaged		Destroyed	Damaged
Alabama	1	..	Nebraska	1	3
Arkansas	2	..	N. H.	..	1
California	4	1	New Jersey	1	..
Colorado	1	1	New York	6	7
Conn.	..	1	N. C.	1	..
Florida	1	1	Ohio	10	9
Illinois	8	4	Oklahoma	3	3
Indiana	2	3	Oregon	1	1
Iowa	4	2	Pa.	6	1
Kansas	2	6	So. Dak.	1	..
Kentucky	1	2	Tennessee	3	1
Maine	2	..	Texas	..	4
Maryland	..	2	Utah	2	1
Mass.	1	..	Vermont	..	1
Michigan	3	2	Virginia	6	1
Minnesota	6	5	Wash.	..	2
Mississippi	1	..	W. Va.	..	1
Missouri	4	3	Wisconsin	8	3

Wage and Hour Administrators Need Help

The delay in arriving at an interpretation of the application of the Fair Labor Standards Act to grain elevators making feeds and doing a retailing and wholesaling business in connection is understandable when we consider that the Wage and Hour Division has to send investigators into the field to learn the facts of the industry.

After ascertaining the factual basis the administrators are expected to draw up their interpretation.

This procedure could well be reversed, by having men who have been engaged in the industry for a lifetime study the law and intent of Congress and thereafter draft an interpretation that would carry out that purpose and at the same time protect the industry.

This procedure has a precedent in the law courts, where a judge having heard plaintiff and defendant, will direct the lawyers representing them to write out a decree for him to sign, both judge and lawyers understanding the result sought to be accomplished.

Causes of Fires in Grain Elevators and Feed Mills

If every owner of a grain elevator or feedmill was daily advised of the cause of each fire and the total amount of each fire loss, the industry would soon be safeguarded by an army of vigilant fire-prevention enthusiasts determined to reduce the number of fires as well as the cost of their fire insurance. If no grain elevators were burned during any year, the fire insurance companies would soon reduce their rates, but if the number of fires was doubled, every elevator owner would expect a marked increase in rates. Fire insurance companies must collect money before they can pay it out, and in this day of fierce competition they are guided by each year's experience in determining the rates needed to bring in sufficient funds to pay their losses.

Interesting elevator managers of western Canada in preventing fire losses has effected an amazing reduction in the number of elevator fires proving conclusively that alert operators can prevent many of the fires if they keep on guard against known causes.

During the last calendar year 387 fires were reported in our news columns, and as usual, the cause of nearly one-half of these fires was reported as unknown, and over one-eighth was credited to friction, while the cause of the other 147 fires was known. Many of these could have been prevented had operators exercised greater caution or installed efficient fire-extinguishing equipment.

Causes of fires in grain elevators, feed mills and warehouses reported in Grain & Feed Journals during 1940 were: Sparks from locomotive, 9; defective heating (stoves, chimneys, etc.), 22; trespassers, 3; children, 2; lightning, 12; spontaneous combustion, 20; explosions (starting equipment), 4; exposure, 17; sparks and backfire from engine, 3; defective wiring, 18; cigarettes, 5; sparks from equipment, 8; incendiarism, 5; burning rubbish—grass, 4; fire after dust explosion, 3; burning cobs, 3; friction, 50; breaking light bulb, 1; improper handling of torch, 3; leak in oil pipe (Diesel engine), 1; truck accidents, 2; explosion in safe, 1; overheated exhaust pipe, 1, and cause not stated or unknown, 190.

Grain Elevators Built in U. S. A. During 1940

The building of 252 new grain elevators, 221 storage annexes, and 259 feed mills during the calendar year 1940 shows that the enterprising grain merchants of the land are not to be licked by the prolonged depression. In addition to the foregoing improvements reported in our news columns during the year, 322 elevators and feed mills were reported remodeled, enlarged and improved and 138 warehouses were added. Twenty-six storage elevators were reported to be erected in the following states: Alabama 1, California 1, Illinois 4, Iowa 1, Kansas 3, Minnesota 3, Missouri 2, Montana 1, Nebraska 1, New York 1, Ohio 4, Washington 2, Wisconsin 2.

In addition 23 annexes were reported to be built adjoining large terminal elevators in the following states: Idaho 1, Illinois 4, Iowa 1, Kansas 3, Minnesota 1, Missouri 1, Nebraska 2, New York 2, Ohio 3, Tennessee 1, Texas 1, Washington 1, Wisconsin 2.

The prolonged activity in building new country elevators and storage annexes was most promising for the building of even a greater number of grain elevators during 1941. While the Pacific Northwest led the rest of the states in building bulk grain handling facilities, Kansas, Oklahoma, Illinois, Minnesota and Iowa crowded up front for a place in the lead as shown by the following table.

	Country Elevators	Annexes		Country Elevators	Annexes
Ala.	12	..	Miss.	2	..
Ark.	3	1	Missouri	7	3
Calif.	1	..	Montana	4	11
Colo.	2	3	Nebraska	11	9
Georgia	1	..	N. J.	1	..
Idaho	11	4	N. Y.	1	..
Illinois	24	35	No. Dak	8	13
Indiana	4	8	Ohio	6	4
Iowa	17	41	Okla.	19	6
Kansas	25	27	Oregon	7	2
Kentucky	2	..	So. Dak	4	6
La.	1	1	Texas	4	7
Maryland	1	..	Utah	1	1
Mass.	1	..	Virginia	1	..
Mich.	6	..	Wash.	49	14
Minn.	19	25	Wis.	7	..
Total				252	221

What Lies Ahead for the Grain Trade

Europe is at war! Eleven countries have lost their economic identity. Others totter on the brink, caught in the maelstrom of a titanic struggle between the free democratic form of government and totalitarianism. Caught also in the vicious battle is international trade, strangled by blockades, harried and thrown out of balance by the urgent demand for airplanes destroyers, guns and ammunition, the scarcity of ships and convoys, the spending of international credits for war materials, instead of food.

The grain trade of all exporting countries has felt the effects of the blockade, of the shortage of ocean bottoms, and of the frenzied demand for war materials. For a little while before the war, U. S. exports of grains reversed their downward trend of several years, and showed a pickup as warring nations imported huge reserves of food. In 1937 our exports of wheat climbed painfully up to 32,000,000 bus.; in 1938 we exported 86,000,000 bus. of wheat, and 147,000,000 bus. of corn; in 1939 these exports of food grains dropped again, in line with the two-thirds of the year in which international trade remained unhampered. Then, after the wheat harvest in Europe was over, war came, and the demand for transport of war materials began to crowd out foodstuffs in an ever-diminishing number of transport ships. In the first 11 months of 1940 our exports dropped to 14,000,000 bus. of wheat, 38,000,000 bus. of corn; Canadian country and terminal elevators became clogged with wheat that could find no outlet, and Argentina's Grain Board offered corn for sale as fuel.

Meanwhile European industrial countries, the world's greatest markets for foodstuffs, tore up many fields of grain in European agricultural sections as their armies fought for controlling positions, men have been called from agricultural pursuits to take up arms, and to make munitions, production of foodstuffs has declined, reserves have been drawn upon heavily, and rigid rationing has been established to conserve remaining supplies and keep peoples alive while the fight goes on.

U. S. EXPORTS BY CROP YEARS
(000 Omitted)

Year	Wheat	Corn	Oats	Rye	Barley
1931	80,173	2,739	2,115	123	7,940
1932	54,882	7,880	3,474	1,095	7,045
1933	8,884	5,364	1,476	36	7,130
1934	16,970	2,988	142	6	25,448
1935	234	177	568	6	7,506
1936	1,870	524	517	5	7,318
1937	32,377	5,833	6,728	4,272	11,470
1938	85,974	147,291	8,516	3,348	16,130
1939	63,121	31,919	226	86	5,287
1940*	14,074	38,362	179	887	1,058

*First 11 months only.

A report from the foreign agricultural relations division of the U. S. D. A. points out that while "condition of fall plantings is very favorable in most of Europe . . . it should be kept in mind that Europe is normally an importer of large supplies of grains; and, with the present blockade of nearly all of its ports, a food shortage during the coming year is imminent. Most of the countries of Europe are now under severe rationing."

Lord Woolton, British food minister, in a radio message to the British people, warned that, "We shall have to do with less meat," and urged use of potatoes as a substitute for bread, conservation of canned foods for emergencies, conservation of cooking fats which were becoming scarce. On the heels of his announcement a scarcity of meats developed, and British housewives found themselves unable to purchase even the 36c worth of meat weekly to which they were entitled before another rationing order reduced this allowance by 20 per cent.

Chief of State Marshal Henri Philippe Petain of France, in a New Year's eve message, predicted that "1941 will be hard. We will go hungry," and he appealed to the peasants to "draw from the earth whatever she will give," and to the public to fill out its diet as best it can.

Rationing in Germany became severe at the outbreak of the war. Rationing of available food supplies has followed in the wake of the Nazi army in each of the small countries which it has subdued. Long lines of hungry folks stand before the food shops in Italy, Belgium, Holland, Denmark, nervously fingering their ration cards, wondering if even these small supplies will be sold to them.

Some day the war will end. Economic exhaustion, and hungry peoples, will force an end. Silencing of the guns will be followed by a vast demand for foods. The huge storehouses full of foods in Canada, the United States and Argentina will be drained. Somehow, some way, the famine-stricken peoples will find means to buy, and a great market will open again to the farmers and the grain dealers of the Americas.

Washington News

Federal administrative budget plans for 1941 include $500,000,000 in soil conservation payments, in addition to $212,000,000 already appropriated for parity payments to producers of wheat, corn, cotton, tobacco and rice, on 1941 crops. Congress has not yet appropriated the $500,000,000.

The time has come when we must remodel our entire Federal tax system. It must be simplified so that we can all go back to work producing real wealth. We must rewrite our tax laws so that everyone can understand them, so that fewer people will be needed to operate them, and so that they will bring in enough revenue to amply provide for all the services we collectively believe should come under the head of public service.—American Taxpayers Ass'n.

Farm benefit payments, highway construction and relief projects are among proposed sacrifices to the armament program. Senators Bankhead (Dem.), Alabama, and Capper (Rep.), Kansas members of the farm bloc, already have served notice that they will work for increased rather than reduced farm benefits. Bankhead said the $212,000,000 the government is paying out this year should be boosted so that farmers would get full parity (the 1904-14 average) prices for their crops instead of the two-thirds they now receive. These payments are in addition to $500,000,000 for soil conservation compliance.

George Livingston, chief of the food supply section of the agricultural division of the National Defense Advisory Commission, told a group of 200 representatives of wholesale and distributing agencies in attendance at the conference presided over by Miss Harriet Elliott, consumer member of the commission, "We are aware that there will be a large carryover of wheat next year, and that the harvest of oats and soybeans will be considerable. We are now engaged in making a detailed survey of all storage facilities, and mapping plans for handling the situation as it may develop. Cotton and tobacco warehouses are now the most cramped for space, and there seems to be need for more ample facilities for the storage of grain at the lake ports."

The Commodity Credit Corp. has announced it will not extend grower loans on unredeemed 1940 wheat and barley stored in commercial grain elevators, when present government loans expire. Instead, the corporation will take delivery of the grain. Grain dealers estimate that this action will force losses of 5 to 12 cents a bu. on the 221,000,000 bus. of 1940 wheat corralled under government loans and reported in commercial warehouses on Dec. 17. In addition, the C. C. C. faces a potential loss of 10c per bu. on 190,000,000 bus. of corn.

Future Trading Contract Not Gaming

The Supreme Court of North Dakota on June 4, 1940, affirmed a decision by the district court of Grand Forks County giving the Hoover Grain Co. judgment against A. Amundson and Wm. Robinson on two notes covering losses in wheat speculation.

Robinson was grain buyer and manager of an elevator owned and operated by the Manvel Grain Co. at Manvel, N. D. Amundson is a farmer residing near Manvel.

On Oct. 16, 1928, Amundson commenced a series of purchases and sales of wheat futures with the Manvel Grain Co. Robinson turning them over to the Hoover Grain Co. for execution on the Minneapolis Chamber of Commerce, over a period of 25 months. There were 19 separate purchases or sales. On his first trade in 1,000 bus. he made a profit of $124.74. On his second trade he made a net profit of $190.91. His last and disastrous venture was on Sept. 3, 1929, when he bought 1,000 bus. for December delivery. He switched this deal to 4 later futures, his net loss being $951.75, and deducting previous profits $636.10. On Nov. 13, 1931, Amundson executed the notes, signed also by Amundson.

When the Hoover Grain Co. brought suit on the notes Amundson testified that "he did not contemplate buying wheat"; that "he was working on the rise and fall of the market," that the notes were given for "betting on this market."

The Supreme Court said: "Similar transactions have been before this court on several occasions and the principles of law applicable are well settled. Contracts for the sale of commodities for future delivery are presumed to be valid and the burden is on the party asserting the contrary to establish such fact. Such contracts are not void as wagering contracts if the parties do not contemplate actual delivery of the commodities purchased, but contemplate settlement by paying the difference between the contract price and the market price upon the delivery date.

"The test of illegality is not the intention of one party to the contract but of both.

"In Dows & Co. v. Glaspel, 4 N. D. 251, this court said, 'We recognize the legal right of every one to speculate in every commodity which he does not own, and for which, as a commodity, he has no use. He may enter into a contract to buy or sell anything of value for the sole purpose of speculating,—with no other object in view than that of making profit out of the transaction; but he must in good faith bind himself to deliver or receive the things sold or purchased. * * * the undisclosed purpose of one of the parties to a contract not to deliver or receive the article contracted for will not affect the other party, who, relying on a contract calling for delivery, intends in good faith that the contract shall be carried out in all of its particulars.'

"It is thus apparent that both the contracts entered into by the plaintiff and the defendant Amundson for the purchase and sale of wheat and the method by which those contracts were discharged and settled were on their face legal in all respects.

"In this case the jury, by its verdict, has found that the evidence did not warrant a conclusion that the contract between the plaintiff and Amundson was a wagering contract. The question of the intention of the parties was properly submitted to the jury and judgment is therefore affirmed."—293 N. W. Rep. 196.

The American Millers Ass'n will meet Jan. 14 at the Brown Hotel, Louisville, Ky.

Asked—Answered

[Readers desiring trade information should send query for free publication here. The experience of brother dealers is most helpful. Replies to queries are solicited.]

Wage and Hour Application

Grain & Feed Journals: We understand that the Wage and Hour Division of the U. S. Department of Labor promised two months ago to give an interpretation of the application of the wage and hour law to firms engaged in operating an elevator, manufacturing feed, retailing and doing some wholesaling. What has been the interpretation?—J. S. Martin.

Ans.: The Division has sent men to visit these plants to collect data about their operations in the grain, feed and retail business as a basis for an interpretation, which has not yet been promulgated.

Protein Content of Brewers' Yeast?

Grain & Feed Journals: What is the protein percentage of brewers' yeast and where can it be purchased?—Brink Bros., Lake Katrine, N. Y.

Ans.: Dried yeast contains by percentage 92 of dry matter, 35.6 digestible protein, 76.6 total digestible nutrients, 45 protein, 3 fat, 1 fiber, 36 nitrogen free extract, 7 mineral matter, 1.48 calcium, 1.28 phosphorus, 7.20 nitrogen.

F. B. Morrison in "Feeds & Feeding" states that "brewers' dried yeast contains 40 per cent or more of protein, and it has been used for a considerable time in Europe as a protein supplement for the various classes of stock. It is not only high in protein, but the protein is of good quality. Also, it is very rich in vitamins B and G, which gives it a special value in poultry feeding.

"In Canadian experiments brewers' dried yeast was equal to linseed meal for dairy cows when fed as a supplement to a ration of grain, silage, and hay. Both on account of its richness in protein and its rather bitter taste, dried yeast should not ordinarily form more than 10 per cent of the concentrate mixture for stock. However, in Germany dairy cows are fed as much as 2 to 4 lbs. per head daily; horses, 1 to 2 lbs. or more; and swine, 0.3 to 1.3 lbs. The yeast should be heated sufficiently high in the drying process to kill the yeast cells, as otherwise marked fermentations may be produced in the digestive tract when much is fed, resulting in indigestion."

Spoiling of Soybeans in Store?

Grain and Feed Journals: We would be pleased to have any information from actual experience, as to the effect of wet beans mixed in with dry ones. For example, suppose a few bushel of wet beans became covered over with dry ones. Does an equilibrium develop wherein the dry ones absorb moisture or do the wet ones heat, decompose and continue with expanding heating and decomposition like one rotton apple in a barrel?

If beans heat unduly will they cause charring or merely ferment and soften to a soupy mass? Whole beans on heating do not appear to support combustion. Are there any authentic cases of fires caused by soybean heating?—Zeleny Thermometer Co., Chicago, Ill.

Ans.: According to Frederick A. Wand, soybean expert of Chicago, the beans cannot be stored safely in quantity when the moisture content exceeds 13½ per cent. A 13 per cent content is safer.

He says: "A bin holding 5,000 bus. of beans contains 7,500 gallons of oil subject to oxidation. A few bushels of damp beans becoming rancid can spread this condition rapidly, even in a mass of beans of low moisture content, that without this focus of infection would remain in good condition.

"When soybeans are allowed to heat in storage, the oil breaks down into fatty acids and glycerine. Such beans, when processed, yield a low oil return per bushel. The oil is of a poor quality and must be refined in order to be of much commercial value. There is a loss in refining. The soybean oil meal obtained from such beans is dark in color and cannot be used in manufacturing special products. Judging from past experience, such meal would have to be sold at a discount even when used as livestock feed."

Coming Conventions

Trade conventions are always worth while, as they afford live, progressive grain dealers a chance to meet other merchants from the same occupation. You can not affford to pass up these opportunities to cultivate friendly relations and profit by the experience and study of others.

Jan. 13, 14. Northwest Retail Feed Ass'n, Hotel St. Cloud, St. Cloud, Minn.

Jan. 16, 17. Pacific Northwest retail seed dealers, Multnomah Hotel, Portland, Ore.

Jan. 23. The New York State Hay & Grain Dealers Ass'n, Onondaga Hotel, Syracuse, N. Y.

Jan. 27. Farm Seed Group of the American Seed Trade Ass'n at the Palmer House, Chicago, Ill.

Jan. 27, 28. Indiana Grain Dealers Ass'n, Columbia Club, Indianapolis, Ind.

Jan. 28, 29, 30. Farmers Grain Dealers Ass'n of Iowa, Savery Hotel, Des Moines, Ia.

Feb. 4, 5, 6. Farmers Grain Dealers Ass'n of North Dakota, Grand Forks, N. D.

Feb. 18, 20. Minnesota Farmers Elevator Ass'n, Hotel Radisson, Minneapolis, Minn.

Feb. 19, 20. Pacific Northwest Feed Ass'n, Inc., New Washington Hotel, Seattle, Wash.

June 2, 3. The Ohio Grain, Mill & Feed Dealers Ass'n, at the Deshler-Wallick Hotel, Columbus, O.

June 9, 10, 11. Society of Grain Elevator Superintendents, Minneapolis, Minn.

June 12, 13, 14. American Feed Mfrs. Ass'n, Homestead Hotel, Hot Springs, Va.

Farmers Grain Dealers of Iowa Will Meet

The program to be presented at the 37th annual convention of the Farmers Grain Dealers Ass'n of Iowa, to be held in Des Moines at the Savery Hotel on Jan. 28, 29 and 30, is not complete, but the following speakers have promised to appear on the program:

R. M. Evans, A.A.A. administrator; Frank Peck, president, Federal Land Bank, St. Paul, Minn.; John Ise, Lawrence, Kan.; J. H. Mason, Omaha Bank for Cooperatives; Carl Wilken, Sioux City, Ia.; W. T. Maakestad, Ames, Ia.; H. L. Dietrich, State Committee, A.A.A., Des Moines; Harry Terrell, Sec'y, Economic Policy Committee, Des Moines; Dr. Bunce, Ames, Ia.; Otto Wohlers, Rock Rapids, Ia.; H. W. Anway, Omaha; Alan Loth, Fort Dodge, Ia.

From all indications the attendance of managers and directors will be up to the usual figures.

Farm Federation Would Decentralize Farm Aid

At its recent convention at Baltimore the American Farm Buro Federation recommended that administration of farm programs be transferred from the United States Department of Agriculture to state com'ites nominated by the state farm buros and the state directors of extension.

Funds appropriated by Congress for farm relief would be transferred to the extension service and each state com'ite.

A single board of 5 men is advocated instead of the present overlapping administrations of crop insurance, soil conservation, domestic allotment, surplus marketing, stamp plan and Commodity Credit Corporation.

Is Producer Helped by AAA Holding Grain?

The Chicago Board of Trade recently celebrated its 90th birthday. Even during the World War, when the commercial and financial shock was so terrific that all the world stock exchanges closed their doors, the directors of the Chicago Board of Trade paused for a moment and considered closing but decided against it. So, we have a record of being open almost continuously without a break on every business day since we were incorporated.

The marketing of grain has been considered in all countries and at all times a matter of grave public concern. In modern times, the great central grain markets have reached an importance in the distribution of food supplies never before attained.

This great institution has appointed a special committee, as follows: W. H. McDonald, Richard F. Uhlmann, George A. Koehl, James E. Skidmore, Christopher Strasser and Fred H. Clutton, for the purpose of studying the government's various farm programs and to determine whether the withholding of grain from markets due to loans or the sale of such surpluses under subsidy is actually benefiting the farmer in the final analysis. It is inquiring whether a departure from free and open marketing will have its secondary consequences, regardless of some of the early advantages that may be gained.

The committee's study will be in the nature of a fact-finding body, and a survey will be made to get the reaction of actual users of our market, including millers, processors, terminal and country elevators, feed manufacturers, commercial livestock producers, exporters and importers. The approach in gathering these facts will be in the form of a simple questionnaire regarding the use of the hedging facilities and its relation to business. Can speculation and uncertainty be eliminated by merchandisers or processors?

Speculation is inherently in world commodities since the price constantly changes with the meeting of the world supply and demand, which is ever-changing.

Future trading has become an integral part of the process and merchandising of agricultural commodities during the 80 years since its origin by the Chicago Board of Trade of the City of Chicago. This system has spread to all of the important commercial markets. The future market provides two important functions, the first is to focus at one central point all price determinations and influences thereby creating the maximum insurance that price will at all times reflect the fundamental supply and demand. This is realized because of the wide and current dissemination of market quotations aiding farmers, processors and dealers in making their purchases and sales, thus reducing the margin between the producer and consumer to the lowest cost of any commodity dealt in, in its market distribution.

The second function of the future market is to serve as a price insurance medium for producers, processors and dealers, a market in which they can place their hedges and protect themselves against loss through price fluctuations.

The Board of Trade is the largest and most important commodity market in the world, serving more producers and consumers than any other world market place. Its members deem it their duty and responsibility to make inquiries of those who use its facilities as to the adequacy of the market and efficiency of the service under present existing market control over the free flow of the commodities dealt in and are seeking cooperation in their undertaking of all those who use the market facilities in order that they obtain factual information that can be used in guiding the association in its future efforts in maintaining a free, open and competitive market.

December Trading in Grain Futures

Trading in grain futures on the Chicago Board of Trade amounted to 336,974,000 bus. during December, 1940, compared with 444,510,000 bus. for November, 1940, and 1,106,943,000 bus. for December, 1939, the Commodity Exchange Administration announced Jan. 4. Trading in soybeans is included only in the volume reported for December, 1940.

Of the 336,974,000 bus. traded in all grain futures during December, 225,003,000 bus., or 66.8 per cent, was in wheat; 61,152,000 bus., or 18.2 per cent, in corn; 12,964,000 bus., or 3.8 per cent, in oats; 12,195,000 bus., or 3.6 per cent, in rye; 25,660,000 bus., or 7.6 per cent, in soybeans. May was the most active future for all grains, accounting for 63.2 per cent of the total volume of trading.

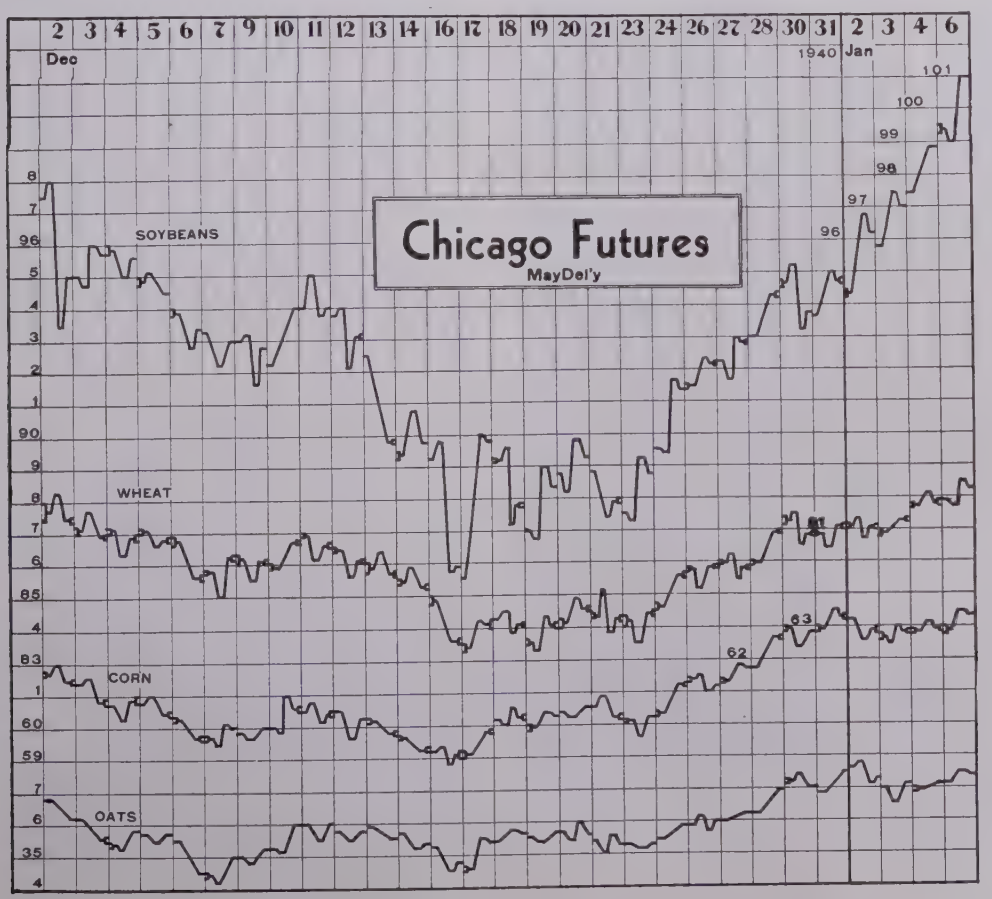
Open contracts in wheat futures decreased 5,280,000 bus. between Nov. 30, 1940, and Dec. 31, 1940, and the daily average open contracts for December was 53,803,000 bus. Open contracts in corn decreased 1,871,000 bus. for this month with a daily average of 23,990,000 bus. Open contracts in oats decreased 1,196,000 bus. with a daily average of 9,932,000 bus. Open contracts in rye futures decreased 1,833,000 bus. from Nov. 30, 1940, to Dec. 31, 1940, with daily open contracts averaging 12,306,000 bus.

Wheat prices from Nov. 30 to Dec. 31, 1940, declined ¼ to 1¼ cents per bushel net, with May closing at 87 cents on Dec. 31. For the same dates, corn futures advanced 1¼ to 1⅜ cents per bushel net, closing at 63¼ cents for May; oats futures advanced ⅞ cent per bushel net, closing at 37½ cents for May; rye futures declined 1⅛ to 1¼ cents per bushel net, closing at 47⅜ cents for May.

Daily Closing Prices

The daily closing prices for wheat, corn, oats, rye, barley and soybeans for May delivery at the following markets for the past two weeks have been as follows:

	Option High	Option Low	Dec. 26	Dec. 27	Dec. 28	Dec. 30	Dec. 31	Jan. 2	Jan. 3	Jan. 4	Jan. 6	Jan. 7
Wheat												
Chicago	89½	70	85¾	85¾	86⅞	86¾	87	87	87¼	87¾	88¼	87½
Winnipeg	78¾	75⅞	....	76⅝	77¼	77⅛	77¼	77⅝	77⅜	77¼	77⅝	77¼
Minneapolis	88¾	68⅜	83⅜	83⅞	84¾	85	85¾	85⅝	85⅞	86⅜	87	86¼
Kansas City	84	63⅞	79¾	79¾	81	80⅞	81⅛	81	81	81⅜	82	81
Duluth, durum	80½	71¾	74⅝	74⅞	75¾	76¼	76¾	77	77¼	77⅝	78⅛	78
Milwaukee	89½	70	85¾	85⅞	87	86¾	87	87	87¼	87⅞	88⅜	....
Corn												
Chicago	66	54⅞	61⅛	61¾	62⅝	62⅞	63¼	62⅞	62¾	62⅞	63¼	62¾
Kansas City	61⅝	53	57⅞	58⅝	59¼	59⅜	59⅞	59⅜	59¼	59⅝	60	59¾
Milwaukee	65⅞	55	61⅛	61¾	62¾	62¾	63⅜	63	62⅞	62⅞	63⅜	....
Oats												
Chicago	38	28⅝	36	36¼	37	37	37½	37¼	37⅛	37⅛	37⅜	37⅛
Winnipeg	34½	26⅝	....	32⅞	33⅜	33⅝	34¼	34⅛	34	34⅛	34½	34⅜
Minneapolis	34⅜	26	32⅝	33	33½	33⅞	34	34	33¾	33⅞	34⅛	33⅞
Milwaukee	38	28¾	36	36¼	37	37	37⅜	37¼	37⅛	37⅛	37½	....
Rye												
Chicago	52⅛	42⅛	46⅜	46⅜	47⅛	47	47⅜	47½	47⅜	48	49	48⅝
Minneapolis	48⅜	39⅝	44	44⅝	45½	45¾	46⅜	46½	46⅜	47	48	47½
Winnipeg	52	43⅞	....	48½	48⅝	48⅞	50	49⅞	49¼	49½	50¾	50¼
Duluth	48	45½	....	....	45½	45¾	46⅜	46½	46⅜	47	48	47½
Barley												
Minneapolis	43½	38	41¾	42¼	42¾	42¾	42¾	43	43⅜	43½	43¼	43½
Winnipeg	46⅞	33⅝	....	44⅜	45⅛	45⅛	45½	45⅛	44¾	44⅞	45½	45
Soybeans												
Chicago	105	69	92⅛	92¾	94¼	93¾	94⅝	96¼	97	98⅞	101	97¾
Canada Exchange	....	....	86⅛	86¼	86⅞	86⅛	86	85⅞	86	86	85⅞	....



Year's Trade in Futures Smallest for Forty Years

The volume of trading in grain futures during 1940 was the smallest since the Grain Futures Administration began keeping records. Total transactions on the Chicago Board of Trade as reported by the Commodity Exchange Administration aggregated 6,850,000,000 bus. Back in 1926 the trading volume totaled 26,895,000,000 bus.

Soybean trading, which is free from government manipulation or control, having only recently come under the Commodity Exchange Act, on the contrary increased in volume to 134,877,000 bus., against 79,947,000 bus. in 1939. Moreover, the government is not accumulating a paralyzing stock of soybeans by making loans to farmers, as is the case in wheat and corn.

The holding of several hundred million bushels of wheat and corn under government control deprives the futures market of that much in hedging sales.

Discontinuance of future trading on the Liverpool Corn Exchange and the closing of continental European markets has contributed to the shrinkage in the volume of transactions in the pits of Chicago, Minneapolis, Kansas City and other contract markets.

Transactions in futures on the Chicago Board of Trade in recent years have been as follows, in millions of bushels:

	Wheat	Corn	*Total
1940	5,445	898	6,850
1939	5,027	1,444	7,142
1938	5,683	1,495	7,497
1937	10,889	2,546	14,628
1936	7,343	1,996	10,455
1935	7,063	2,219	10,175
1934	7,500	3,193	12,084
1933	10,354	3,609	15,597
1932	8,078	1,497	10,006
1931	6,925	3,880	11,503

*Includes oats and barley.

The Red Cross' recent order for 50,000 bbls. of graham flour for Spanish relief has been temporarily withdrawn.

Open Interest in Future Deliveries

As reported by the C.E.A. for wheat, corn, oats and rye, and by the Board of Trade Clearing House for soybeans the open interest in all futures on the Chicago Board of Trade recently has been as follows, in 1,000 bus.:

	Wheat	Corn	Oats	Rye	Soybeans
Aug. 3	80,359	22,134	9,571	16,427	1,778
Aug. 10	82,082	22,982	10,061	16,734	2,390
Aug. 17	80,492	22,585	10,131	16,515	2,781
Aug. 24	77,384	22,927	10,164	16,075	2,906
Aug. 31	70,137	22,470	10,403	15,469	2,963
Sept. 7	60,516	22,779	10,560	14,290	3,010
Sept. 14	59,707	22,075	10,961	13,962	3,038
Sept. 21	58,871	19,176	10,132	14,601	3,168
Sept. 28	58,175	19,454	10,115	14,316	3,331
Oct. 5	57,283	19,641	10,119	14,273	3,531
Oct. 11	56,279	19,516	10,192	14,558	4,321
Oct. 19	55,539	20,287	10,392	14,562	5,273
Oct. 26	55,850	20,811	10,382	15,014	5,976
Nov. 2	54,629	22,070	10,466	15,107	6,477
Nov. 9	55,877	22,771	10,380	14,860	7,180
Nov. 16	54,534	24,088	10,560	14,794	7,150
Nov. 23	56,038	25,156	10,658	14,951	7,356
Nov. 30	55,726	24,765	10,380	14,144	6,975
Dec. 7	55,891	24,864	9,978	12,674	6,851
Dec. 14	55,477	24,910	9,982	12,105	*7,942
Dec. 21	50,179	22,509	9,858	12,550	6,859
Dec. 28	50,621	22,695	9,649	12,297	6,971
Jan. 4	49,476	22,493	9,200	12,743	6,842

*Reported under Commodity Exchange Act beginning Dec. 9.

Letters from the Trade

[The grain dealers' forum for the discussion of grain trade problems, practices and needed reforms or improvements. Dealers having anything to say of interest to members of the grain trade are urged to send it to the Journals for publication.]

Limiting the Price of Corn

Grain Dealers Journal: A definite ceiling was placed over the corn market with the announcement by the government that country stored corn in steel bins would be offered for sale at a price of 65 cents per bushel. Because this year's crop of corn runs high in moisture and therefore presents more danger in storage, many owners of corn will want to sell at this time of the year when the price justifies and conditions are favorable to permit moving the corn.—Baldwin Elevator Co., Decatur, Ill.

Trucking 200 Miles on 4c Margin

Grain & Feed Journals: We are not doing a lot in the grain business, truckers are busy going direct to the farm and taking corn to localities south of us that weren't blessed with a good crop. We were able to check up yesterday on one trucker who hauled 200 bus. of wheat approximately 200 miles on a margin of 4c per bu. If they can do that we can all take lessons from them. Of course, they are rather adept at avoiding all sales tax and even property tax.—C. C. Barnes, exec. vice pres., Goodrich Bros. Co., Winchester, Ind.

Disposition of Government Corn

Last Apr. 1 it was estimated that about 552 million bushels of corn were sealed on farms or held by the Government. In the table below, the distribution of this corn is shown by the Dept. of Agriculture in millions of bushels. It is estimated that about 30 million bushels of this corn were sold by the Government since Apr. 1, and 102 million bushels were redeemed by farmers thru the payment of the loan. Of the quantity sold by the Government, 25 million bushels were sold for export and about 5 million bushels were sold within the United States.

Of the 147 million bushels of 1937 and 1938 corn sealed on farms last Apr. 1, it is estimated that about 55 million bushels have been delivered to the Government as collateral for loans and 30 million bushels have been redeemed by farmers. Of the 302 million bushels of 1939 corn sealed, about 75 million bushels were delivered to the Government. Total Government holdings of corn have been increased to about 190 million bushels.

The corn remaining sealed on farms in December totaled only about 230 million bushels, or 219 million bushels below the quantity sealed on farms last Apr. 1. This would indicate that crib space available on farms is not an important factor limiting the quantity of 1940 corn to be sealed.

Corn sealed or held by the Government on April 1 and in mid-December, 1940

Item	April 1 Million bushels	Estimated for mid-December Million bushels
Total sealed or held by the Government	552	420
Sealed on farms		
1937 and 1938 corn	147	75
1939 corn	302	155
Sealed by farmers in country elevators	13	...
Held by the Government	90	190

Since the movement of corn between the positions shown above extended into early December, the figures given in the second column are dated as of mid-December to show the estimated final position of old corn. These figures may be revised somewhat after more complete records are available on this corn. It is estimated that about one-half of the corn held by the Government was in country, terminal, and sub-terminal elevators and one-half in steel bins.

CCC Will Take Delivery on Warehoused Wheat and Barley

The Commodity Credit Corporation will now take delivery of all unredeemed 1940 wheat and barley stored in warehouses when the loans on these commodities mature within the next four months. Delivery will also be taken of all unredeemed 1939 resealed wheat and rye on which the loans were extended last spring. An extension beyond the original 10-month period will be available for loans on 1940 farm-stored wheat, barley and rye in areas where it is known that grain will store without deterioration.

Dec. 31 is the closing date for making all 1940 wheat, barley and rye loans. Under the program, borrowers have the privilege, whenever prices are high enough, of repaying their loans prior to maturity and selling the collateral at an additional profit above the amount of the loan plus interest and storage charges.

The loans on warehoused wheat are made either for a period of 8 months or until April 30, 1941, whichever is earlier. For many of these loans, the 8-month period will expire during February, March and April. Loans on barley stored in warehouses mature 10 months from date, or April 30, 1941, whichever is earlier. The farm storage loans for all three commodities were made for a full 10-month period. The Corporation will not accept delivery of these grains prior to maturity of the loans.

Commodity Credit Corporation now anticipates that, insofar as practicable, it will not sell any 1940 crop wheat that is in good condition except at prices not less than loan values plus charges. A small part of this wheat can be disposed of by the Surplus Marketing Administration in export channels and in relief distribution. There is also the possibility that the Red Cross may be able to use small amounts of it. Some wheat may also be sold or transferred to the Federal Crop Insurance Corporation or to other Government agencies.

Of the 268 million bushels of 1940 wheat under loan on Dec. 17, 1940, about 221 million bushels were in warehouse storage and 47 million bushels were in farm storage.

On the same date approximately 7 million bushels of 1940 barley and 4 million bushels of 1940 rye were under loan.

The 1939 resealed collateral includes about 10 million bushels of wheat and about 472 thousand bushels of rye, stored on farms. The loans on this grain were extended last spring for one year and will mature on April 30, 1941.

Rome, Ga.—Theodore Stivers, president of the Stivers Milling Co., was acquitted of an 11-count mail fraud indictment in the U. S. District Court at Atlanta, Dec. 23, when a jury followed at hour's deliberation with a verdict of "not guilty." The federal grand jury indictment had charged Mr. Stivers with mailing an allegedly false statement of his company's financial condition. Several witnesses testified at the two-weeks' trial that they had been paid in full and had not been defrauded.

1940 CCC Corn Loans

The Commodity Credit Corporation, in its first summary of returns on the 1940 corn loan program, today announced that as of Dec. 31, 1940, 4,618 loans for a total of 4,657,362 bus. valued at $2,837,474.71 had been completed.

The Corporation also reported that 114,754,644 bus. of Corporation owned or loan stocks had been sold or redeemed in the year 1940 and that the Corporation has taken title to 160,131,285 bus of the loan stocks. In addition, 182,727,892 bus. have been resealed by farmers with approximately 90 million bushels of the 1938 and the 1939 loan stocks in the process of being resealed or delivered to the Corporation.

New corn loans under the 1940 corn loan program by states follow:

State	No. of Loans	Bushels	Amount
Illinois	1,567	1,744,318	$1,064,011.42
Indiana	87	70,172	42,804.92
Iowa	2,202	2,241,453	1,367,273.01
Kansas	10	5,673	3,460.53
Minnesota	357	278,748	168,703.63
Missouri	144	86,484	52,532.79
Nebraska	153	174,149	106,204.95
North Dakota	4	8,677	3,991.42
Ohio	59	27,243	16,618.23
South Dakota	33	19,691	11,413.87
Wisconsin	2	754	459.94
Total	4,618	4,657,362	$2,837,474.71

1940 Wheat Loan Totals

Loans on farm and warehouse stored wheat as of Dec. 31, 1940, the date on which the time for farmer application for such loans expired, totaled 271,410,744 bus. of grain against which $195,915,388.10 had been advanced, the Commodity Credit Corporation has announced.

Officials pointed out that while the period in which applications for loans under the 1940 program expired on Dec. 31, 1940, loans which were in process in the county committees and the field offices of the Corporation on the date of expiration would be cleared and that these loans would likely increase the final figures somewhat.

The smallest number of loans in any given state was in Wisconsin, where only one loan was made. The largest number of loans and the greatest volume of grain appeared in North Dakota, where 91,531 loans were made for a total volume of 56,348,383 bus. North Dakota also leads in the amount of wheat under loan stored on farms.

A total of 432,369 loans were made under the 1940 program compared to 235,216 on the same date last year for a total of 166,180,086 bus. valued at $116,259,395.72.

Farm storage and warehouse loans by states follow:

State	No. Loans	Farm Storage	Warehouse Storage	Amount
Ark.	30	.....	12,677	$ 9,407.47
Calif.	39	34,095	96,799	89,024.46
Colo.	4,276	888,667	2,326,897	2,117,804.74
Dela.	3	.....	1,625	1,327.13
Idaho	4,004	1,691,169	5,248,581	3,704,586.27
Ill.	26,987	640,326	12,062,663	10,146,563.22
Ind.	11,314	304,752	3,178,404	2,695,389.59
Iowa	5,497	409,566	2,474,733	2,149,307.72
Kan.	66,097	7,716,960	39,292,355	33,638,450.62
Ky.	1,584	.....	611,640	467,687.77
Md.	118	.....	57,353	40,853.14
Mich.	1,490	231,626	151,710	266,409.50
Minn.	26,241	3,075,334	7,140,896	8,058,825.66
Mo.	20,907	332,464	8,370,381	6,537,482.98
Mont.	25,142	7,470,809	19,535,619	18,918,777.51
Nebr.	32,934	5,352,640	9,909,310	11,030,699.62
N. Mex.	439	69,009	344,971	294,658.48
N. Dak.	91,531	8,693,018	47,655,365	42,787,926.94
Ohio	12,203	361,682	3,654,136	3,213,979.22
Okla.	31,225	2,426,215	18,106,235	14,718,607.85
Ore.	2,091	782,823	4,886,233	3,318,440.92
Penn.	497	.....	127,533	95,056.00
S. Dak.	41,207	3,042,966	10,747,685	10,299,985.83
Tenn.	885	.....	278,824	218,572.97
Texas	19,567	1,498,884	17,147,015	13,680,937.66
Utah	477	637,849	201,968	414,052.69
Va.	624	.....	176,836	134,540.91
Wash.	4,131	1,303,738	9,927,455	6,360,765.99
W. Va.	24	.....	9,687	8,354.04
Wisconsin	1	172	.....	115.24
Wyo.	804	320,085	390,309	496,795.96
Total	432,369	47,284,849	224,125,895	195,915,388.10

Archer-Daniels-Midland Concrete Elevator at Decatur, Ill.

Decatur, Illinois, being located in the heart of the country's soybean producing area and having five trunk lines of railroad radiating in different directions, made it the favorite point for new modern soybean storage and processing plants. Naturally the bean storage capacity of this enterprising market has been doubled and tripled in recent years, so that today this soybean center has storage room for over 14,000,000 bushels of beans and additional storage facilities are being planned for early construction.

In locating this plant, considerable attention was paid to railroad facilities best adapted to the soybean industry, the choice being based on the fact that the city of Decatur provides railroad facilities in all directions. Aside from these very important facilities available, it was found that Decatur has available an excellent water supply and a favorable labor policy with which to deal.

Various sites were examined and it was finally decided to be of considerable advantage to select a site northeast of the boundaries of Decatur, adjoining a public park, within reasonable distance of Lake Decatur. This property had not been developed and it was necessary to construct approximately two miles of new railroad from the main line to the construction site, for the purpose of serving this plant.

The modern fireproof plant erected for the Archer-Daniels-Midland Company consists of a five million bushel grain elevator with two 1,000 bushel Randolph grain driers and one Richardson car dumper; a bean processing building; an extraction building; a 3,200 horsepower boiler house; a machine shop; a welfare building for employes; an oil house, together with oil storage tanks; an office and laboratory; pump house; a water reservoir; a sewage disposal plant and a transformer station.

The elevator consists of 152 large storage bins with ten additional cleaner bins in the elevator proper. The structure is 550 ft. 8 in. long, 109 ft. 4 in. wide, and the storage bins are 134 ft. high, the head house being 234 ft. high. All bins have hoppered bottoms.

THE EQUIPMENT installed in the elevator consists of one 25,000 bushel per hour leg, two 15,000 bushel legs and one 12,000 bushel leg. Provision also being made for an additional 12,000 bushel leg when truck receiving equipment is added to the elevator. The 25,000 bushel leg serves the car unloader. This leg discharges into a 3,000 bushel garner located over a 2500 bushel full capacity hopper scale; the grain going from the hopper scale discharges into a 1,000 bushel garner located below the scale, from which point it is distributed by means of spouts and belt conveyors to any of the bins in the house.

The 15,000 bushel leg on the east side serves a hand shovel pit, the leg discharging into a 3,000 bus. garner located over a 2,500 bus. full capacity hopper scale. From this hopper scale grain may be distributed through spouts and by means of conveyor belts to any bin in the house.

The house leg having a capacity of 15,000 bus. is located on the south end adjacent to the drier. The purpose of this leg is to serve the drier and to receive grain from the storage for turning or loading into cars. All elevating and conveying machinery was supplied by the J. B. Ehrsam & Sons Mfg. Co.

The elevator is provided with two carloading spouts for loading on tracks number three and four on the east side of the elevator. At the extreme south end of the elevator special provision was made for the installation of two 1,000 bushel Randolph grain driers. These driers are equipped with overhead and lower garners to provide for continuous operation.

In that section of the elevator where the legs are located, provision was made for two grain cleaner floors located half way between the basement and the top of the bins, so as to provide hoppers over and under cleaning machines. Only one cleaner is installed at this time, space being provided for six additional machines.

Two 46 inch conveyors over the storage bins run the entire length of the house, with trippers for discharging into any of the bins desired. In the basement three 36 in. conveyor belts return grain from the storage bins to the legs on the south end.

THE MEAL AND BEAN HOUSE is a structure located east of the grain elevator, for the preparation of soybeans for the solvent plant located east of the meal and bean building. The meal and bean building is a reinforced concrete frame structure 111 ft. 4 in. long, 74 ft. 10 in. wide and 82 ft. 3 in. high. In this building are located many legs, conveyors, motors and other equipment for the conveying and handling of beans to flaking machines, grinders, cookers, etc. This building also contains drying, pelleting and sacking machinery for the handling of meal being returned from the solvent plant.

THE SOLVENT PLANT, located east of the meal and bean building, is of structural steel frame construction on concrete foundations with brick curtain walls. All interior floors are made of steel bar gratings. The equipment installed in this building is of special design, imported from Germany. The process being new to the field in this country made it necessary for the owners to arrange for the manufacture of this equipment in Germany.

THE BOILER HOUSE, located approximately 150' to the north of the meal and bean building, consists of three 1,000 horsepower boilers, together with coal and ash handling equipment as required for the generation of steam for the operation of this plant.

THE MACHINE SHOP and welfare buildings are located south of the meal and bean building, these buildings being one story in height and having brick walls and a frame construction. The machine shop is well equipped with machines for the repairing and replacing of equipment needed throughout the plant.

THE OIL HOUSE is located north of the solvent plant. This building is of structural steel frame, with brick curtain walls, all on a concrete foundation. Oil produced in the solvent plant is pumped to the oil house, where it is cleaned and stored for shipment.

THE OFFICE AND LABORATORY are located south of the solvent plant. This office consisting of a one story and basement building to accommodate the office working force for the plant. The laboratory is built adjoining the office and is equipped with full laboratory equipment for the analysis and grading of grain products received at the plant.

THE PUMP HOUSE is located on the shore of Lake Decatur, a distance of approximately one mile from the plant. It is so located as to receive water by direct channel flow to the pump house, where a pump having a capacity of 2,000 gallons per minute is located to serve the plant. Water is pumped from this plant to a reservoir located near the solvent plant, where it is permitted to settle before being used in the plant. Lake water is used for cooling purposes only, the plant being provided with a deep well for domestic use.

THE TRANSFORMER STATION is located near the south end of the grain elevator, where electricity is received from the power company on 23,000 voltage. It is here transformed from 23,000 volts to 440 volts. All equipment throughout the plant is operated with individual G.E. motors served from this power station.

The sewage disposal plant is located north of the solvent plant, for the conversion of estic sewage from the entire plant.

For the shipping of meal, a covered conveyor gallery extends north from the bean house a

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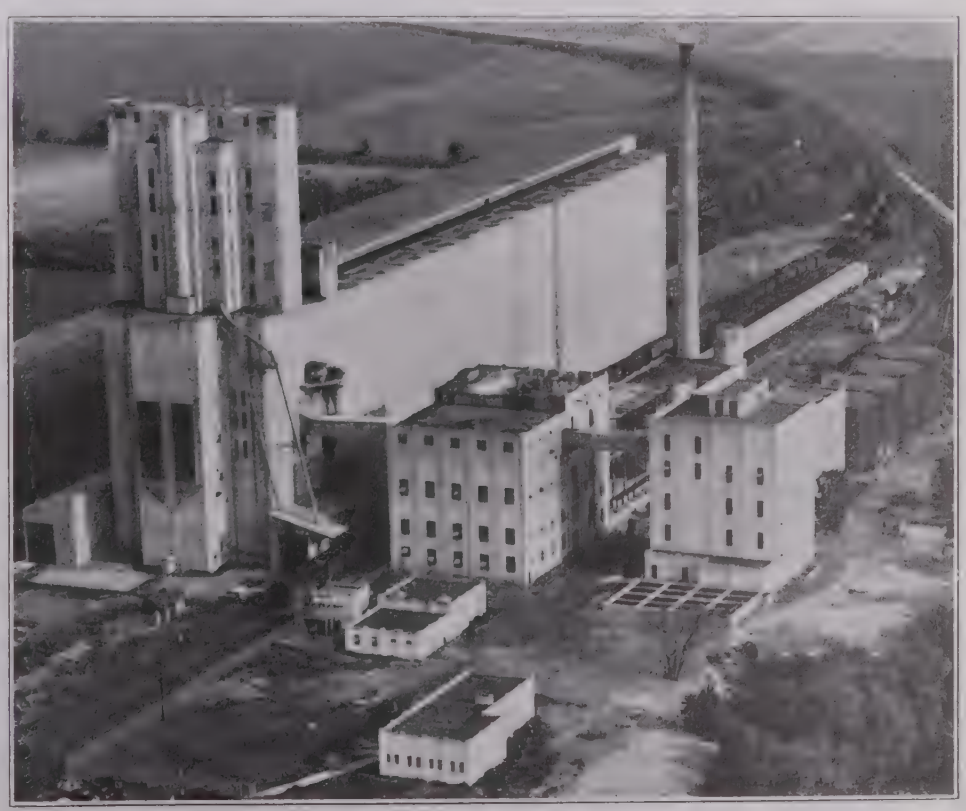


An Air View of Archer-Daniels-Midland Co.'s Elevator and Processing Plant at Decatur, Ill.
[See outside front cover]

Crop Reports

Reports on the acreage, condition and yield of grain and field seeds are always welcome.

Ewart (Montezuma p. o.), Ia., Jan. 6.—The moisture content of corn is still very high in this locality, the average around 17-18%.—Wells-Hamilton Grain Co.

Sugar Ridge, O.—A very wet fall, an early frost, immature corn crop have caused a very wide spread in corn prices, this being the smallest corn crop here in my ten years with this company.—G. H. Smith, mgr., The Sugar Ridge Grain Ass'n.

Lincoln, Jan. 3—O. S. Bare, extension entomologist at the Nebraska agricultural college, predicted today chinch bug infestation in the eastern part of the state will be as heavy next summer as it was last year. He based his outlook on a field survey made last fall. Bare explained, however, there is always hope that an unfavorable winter or spring may reduce the infestation.

Manhattan, Kas.—Rusts have been more widely distributed and are more severe on cereals in Kansas this fall than for many years, according to the bureau of plant industry here. Infections appeared first on volunteer wheat plants and spread rapidly to fall-sown winter wheat, it is stated. Both leaf and stem rust can now be found in nearly every field of wheat in central Kansas, infections being heavy in some localities.

Spokane, Wash., Dec. 30—Rains beating at the rich Palouse country topsoil, with the monotonous regularity of a tropical rainy season, threaten to make the erosion damage of this winter the worst in the Inland Empire history. This condition has been revealed by Regional Conservator J. H. Christ of the soil conservation service. "Hundreds of thousands of tons have been flushed from unprotected wheat lands underladen with frost," Christ said.—F. K. H.

Seattle, Wash.—It is estimated that winter wheat seeded the past fall aggregated an all-time record for Washington state of 1,585,000 acres. The acreage a year ago was 1,043,000. "The growing condition of winter wheat, as of Dec. 1, was 96 per cent of normal—the highest Dec. 1st condition reported since 1927." Oregon planted 691,000 acres compared with 617,000 a year ago; Idaho 716,000 compared to 731,000; Montana 1,462,000 compared with 1,271,000 in the fall of 1939.—F. K. H.

Chicago, Ill., Jan. 2.—The glowing condition of the winter wheat crop on Dec. 1 as far as moisture was concerned has even been bettered by Jan. 1, so that not only has the surface moisture been maintained to a more than usual extent over the largest percentage of the acreage, but the sub-soil has also been further relieved from its moisture shortage during the month, especially in parts of the Southwest where in most past winter seasons it had been alarmingly short.—Thomson & McKinnon.

Columbus, O.—Corn production in 1940 was 29 per cent smaller than in 1939, but the production of wheat was 13 per cent larger and oats 35 per cent larger than the previous year. Hay production exceeded that of 1939 by 18 per cent. The crops of potatoes and tobacco were smaller than in 1939. The acreage of soybeans showed a sizeable increase over 1939, but yields of soybeans averaged materially less than in 1939, and the crop of soybeans for beans was 17 per cent smaller than in the previous year.—Glenn S. Ray, agr. statistician, U. S. Dept. of Agr.

Helena, Mont., Dec. 25—The harvested acreage of all main crops in 1940 totaled 6,777,000 or about 8.6 per cent larger than in 1939 when it was about equal to the 10-year average total of 6,249,000 acres. Larger acreages were planted to the grain crops, including corn but excluding rye, in 1940 as compared with both the preceding year and average. Larger than average harvested acreages also occurred in the case of sugar beets, mustard seed, sweet clover seed and alfalfa seed. Acreages smaller than average were harvested in the case of flaxseed, rye, potatoes, beans, seed peas and hay.—Jay G. Diamond, sr. agr. statistician, U. S. Dept. of Agr.

Conway, Ark.—Rice farmers from Stuttgart and Newport, are negotiating with land owners for rice growing land, and many farmers in the McCrory area plan to grow rice this year. Several tracts of virgin timber have been cleared and the county's largest rice crop is predicted.—J. H. G.

Decatur, Ill., Jan. 4.—December was an extremely mild month; mean temperature was 37.4 degrees. Precipitation during the month totaled 1.92 inches, which is .47 of an inch below normal. The first day of the new year was the second warmest in Decatur weather records, accompanied by an all-day rain amounting to .74 of an inch. The moisture was beneficial to winter wheat and will also help to relieve serious subsoil moisture deficiencies and replenish wells on farms. The mild weather together with the many hours of slow, steady rain that soaked the topsoil has improved the looks of winter wheat. Early seeded fields show above normal growth and stands. The late seeded fields have good stands with very fine growing condition.—Baldwin Elevator Co.

December Corn Inspections Confirm Poor Quality

The poorer quality of the 1940 corn crop is confirmed by inspections of receipts at representative markets during the first half of December, the Agricultural Marketing Service reports.

Of the corn inspected at these markets from Dec. 1 to 15, inclusive, only 19 per cent graded No. 2 or better this season compared with 87 per cent during the same period last season when the quality was unusually high. Forty-five per cent graded No. 3 and 28 per cent No. 4 for the first half of December, 1940, against 11 per cent and 1 per cent, respectively, a year earlier. Eight per cent graded No. 5 and Sample grade this season compared with only 1 per cent in these grades in 1939. Yellow corn apparently graded slightly higher than the white corn.

Receipts during the Dec. 1-15 period consisted of a greater percentage of yellow corn than last season with 86 per cent classing as yellow, 11 per cent white and 3 per cent mixed against 79 per cent yellow, 16 per cent white and 5 per cent mixed during the first 15 days in December, 1939.

Soybeans Movement in December

Receipts and shipments of soybeans at the various markets during December, compared with December, 1939, in bushels, were:

	Receipts		Shipments	
	1940	1939	1940	1939
Baltimore	.....	738,474	.....	479,790
Chicago	1,389,000	1,248,000	599,000	658,000
Indianapolis	52,500	112,500	61,500	88,500
Milwaukee	22,560	24,310	.....	.....
Minneapolis	61,500	.....	.....	.....
Omaha	115,500	13,500	.....	.....
Peoria	226,799	119,750	110,199	156,200
St. Joseph	84,000	21,000	.....	7,500
St. Louis	12,800	16,000	11,200	16,000
Toledo	61,500	273,000	48,000	107,325

1941 State Corn Acreage Allotments

State corn acreage allotments for the 1941 commercial corn area were announced Dec. 31 by the Agricultural Adjustment Administration. The area consists of 623 counties in 15 states and has a total allotment of 37,300,000 acres.

Corn allotments for individual farms are now being established in counties of the commercial corn area. Farmers who plant within their farm allotments in 1941 will receive conservation payments of 9 cents a bushel on the normal yield of their corn allotments. They will also receive parity payments at a rate yet to be determined and will be eligible for corn loans next fall as authorized by the Agricultural Adjustment Act of 1938.

The 1941 commercial corn area consists of 24 counties in addition to the 599 counties which were included in the area in 1940. For the area which was included in the 1940 commercial corn area, the 1941 allotments will total virtually the same as the 1940 allotment of 36,638,000 acres. The difference between the 1940 and 1941 national allotments is accounted for chiefly by the addition of the 24 new counties to the area. State, county and farm allotments, however, vary somewhat from those of 1940, since state and county allotments reflect trends in corn plantings and farm allotments reflect changes in farming operations.

The 1941 corn acreage goal is 88 to 90 million acres, including the allotment for the commercial corn area and the anticipated normal plantings outside the area. This is the same as the national goal for 1940.

The state allotments for the commercial corn area in 1940 and 1941 are as follows:

	1940		1941	
	No. of Counties	Acres	No. of Counties	Acres
Illinois	99	6,513,876	99	6,527,756
Indiana	83	3,225,440	83	3,208,908
Iowa	99	8,193,223	99	8,184,781
Kansas	25	1,573,277	25	1,589,175
Kentucky	12	323,220	12	320,804
Michigan	12	392,095	12	391,511
Minnesota	49	3,177,524	49	3,153,973
Missouri	63	2,876,339	63	2,920,469
Nebraska	64	5,905,316	64	5,923,431
Ohio	63	2,396,291	63	2,386,441
South Dakota.	18	1,393,862	18	1,393,515
Wisconsin	12	667,577	12	661,622
Delaware	..	.....	2	46,578
Maryland	..	.....	11	224,979
Pennsylvania .	..	.....	11	366,057
Total		36,638,000		37,300,000

Imports and Exports of Grain, 1926-1940

Imports and exports of grain of the United States during 1936, 1937, 1938, 1939, for ten months of 1940, and for the 5-year periods 1926-30, and 1931-35, as reported by the Department of Commerce have been as follows in thousands of bushels:

Imports

	1926-'30	1931-'35	1936	1937	1938	1939	*1940
Barley	.....	3,815	8,144	10,384	126	776	1,162
Corn	1,808	9,465	31,471	86,337	404	490	1,240
Oats	205	3,291	149	58	7	4,293	10,084
Rye	.....	8,424	3,889	207	.....	.....	1
Wheat	15,858	18,689	52,990	17,716	3,829	10,747	7,538
Oil Cake and Meal†	284,480	155,992	206,396	368,801	153,823	178,826	280,035

Exports

Barley	28,527	6,998	7,377	11,473	16,130	5,410	1,351
Buckwheat	186	148	.....	360	77	346	385
Corn	20,481	3,823	524	5,834	147,505	32,117	34,436
Kafir and Milo.....	1,365	1,857	2	88	675	2	1
Oats	8,032	1,558	517	6,728	8,517	226	170
Rice†	236,377	155,676	23,398	208,375	319,800	307,786	268,065
Rye	13,216	254	6	4,262	3,347	86	887
Wheat	116,155	32,075	1,879	34,848	86,902	63,214	13,524
Wheat Flour‡.....	12,650	5,375	3,660	4,453	5,214	7,745	4,520
Oil Cake and Meal§.....	535,408	294,657	237,886	379,965	328,676	301,648	135,373

*To Nov 1. †1,000 lbs. ‡1,000 bbls. §Tons of 2,240 lbs.

Grain Movement

Reports on the movement of grain from farm to country elevator and movement from interior points are always welcome.

Portland, Ore.—Portland's exports for 1940 according to figures of Portland Merchants' Exchange, included wheat shipments of 2,684,800 bus., compared with 13,132,612 bus. during 1939. —F. K. H.

Ewart (Montezuma p. o.), Ia., Jan. 6.—Some corn is being sealed at present. There are no large amounts of corn moving at this time, due to the bad condition of the roads.—Wells-Hamilton Grain Co.

Baltimore, Md.—Receipts and shipments of grain from Jan. 1 to Dec. 31, 1940, expressed in bushels, as compared with those for the same period in 1939, shown in parentheses, were as follows: Receipts, wheat, 655,435 (823,420); corn, 8,233,939 (12,083,471); oats, 797,311 (994,874); rye, 1,493,741 (1,053,472); barley, 214,438 (837,756); soybeans, 441,057 (3,045,541); shipments, wheat, 14,521,199 (3,137,389); corn, 5,717,837 (3,082,929); oats, 51,575 (——); rye, 339,208 (121,273); barley, 601,390 (348,008); soybeans, 1,564,666 (1,865,023). —Baltimore Chamber of Commerce.

Decatur, Ill., Jan. 4.—While the price of corn has advanced five cents from the recent low point, the advance has not been sufficient to bring out any large volume. Part of the light receipts is due to muddy condition around granaries and on side roads. There has been a heavy demand from feeders, and truckers are busy hauling corn to southern states. With some improvement the past weeks in the hog-corn ratio, hogs will now be fed for heavier weights. Farmers having corn in storage under government loan may now redeem their grain a few bushels at a time if needed for feed. This enables the borrower to pay off his loan piecemeal. This modification in corn sealing rules was recently announced by the Commodity Credit Corporation.—Baldwin Elevator Co.

Ottawa, Ont., Jan. 3.—Canadian wheat in store for the week ending Dec. 27, 1940, increased 8,706,955 bus. as compared with the previous week and increased 143,346,517 bus. when compared with the corresponding week in 1939. The amount in store was reported as 492,595,619 bus. compared with 483,888,664 bus. for the previous week and 349,249,102 bus. for the week of Dec. 29, 1939. Wheat receipts in the Prairie Provinces for the week ending Dec. 27, 1940, amounted to 8,345,983 bus., a decrease of 181,734 bus. from the revised figure of the previous week when 8,527,717 bus. were marketed. During the corresponding week a year ago the receipts were 1,631,723 bus. Marketings in the three Prairie Provinces for the 21 weeks from Aug. 1, 1940, to Dec. 27, 1940, as compared with the same period in 1939 were as follows, figures within brackets being those for 1939: Manitoba 37,979,482 (49,317,489); Saskatchewan 152,253,673 (203,180,279); Alberta 90,711,085 (110,237,284) bus. For the 21 weeks ending Dec. 27, 1940 and the same period in 1939, 280,944,240 and 362,735,052 bus. were received from the farms.—R. H. Coats, Dominion Statistician.

Saint Joseph, Mo.—Receipts and shipments of grain during 1940 as compared to 1939, expressed in parentheses, in bushels were as follows: Receipts, wheat, 9,278,400 (11,280,000); corn, 5,776,500 (3,501,000); oats, 3,218,000 (3,942,000); rye, 4,500 (31,500); barley, 19,250 (22,750); kafir, milo, 3,000 (16,500); soybeans, 346,500 (357,000); shipments, wheat, 7,224,000 (7,945,600); corn, 2,470,500 (2,083,500); oats, 358,000 (994,000); rye, 6,000 (——); barley, 22,750 (5,250); kafir, milo, 1,500 (13,500); soybeans, 22,500 (22,500).—St. Joseph Grain Exchange.

Barley Movement in December

Receipts and shipments of barley at the various markets during December, compared with December, 1939, in bushels, were:

	Receipts		Shipments	
	1940	1939	1940	1939
Baltimore	4,934	569,443	155,606	348,008
Chicago	1,253,000	1,032,000	260,000	306,000
Duluth	744,385	118,511	826,685	1,409,292
Hutchinson	3,200	.....	.....	.....
Indianapolis	6,000	.....	.....	1,500
Kansas City	28,800	24,000	4,800	12,800
Milwaukee	2,849,780	2,444,120	993,275	520,925
Minneapolis	3,393,200	3,717,900	2,390,200	3,177,900
Omaha	12,065	35,334	14,400	34,110
Peoria	285,600	261,800	185,600	150,000
Philadelphia	1,248	3,335	1,895	2,003
St. Joseph	1,750	.....	.....	.....
St. Louis	83,200	187,200	9,600	30,400
Superior	237,784	107,866	77,243	246,072
Toledo	21,000	2,800	12,600	1,835
Wichita	6,500	.....	6,500	.....

Imports of Oats Jump

Entry of the United States into a reciprocal trade agreement with Canada in November of 1938 has gradually led to a marked change in the "grain imports for consumption" situation in this country. The agreement dropped the import duty on oats from 16c per bu. to 8c per bu. Buyers in the New England states and Canadian exporters promptly began to get together to take advantage of this reduction, and imports of oats leaped upward.

During the period 1929-39, imports of oats into this country for consumption were small. They totaled 112,000 bus. in 1929, 166,000 bus. in 1930, 604,000 in 1931, 58,000 in 1932, 131,000 in 1933, 5,161,000 in 1934, following the preceding short crop, 10,106,000 in 1935, following a shorter domestic crop, then back down to 149,000 in 1936, 58,000 in 1937, and 7,000 in 1938.

Except for the short domestic crop years imports of oats have never entered heavy figures. But in 1939, without a short crop excuse, imports totaled 4,293,000 bus. A rise toward the 1,000,000 bus. a month figure appears in the figures kept by Statistician Lyman C. West of the Chicago Board of Trade, in November and December of 1939, where 870,000 and 812,000 bus., respectively, are recorded.

The year 1940 saw four months when this country imported over 1,000,000 bus. of oats, and one when it imported over 2,000,000 bus. The figures for the first 11 months of the year total 10,778,000 bus., or more than in any preceding full year, but with no short domestic crop as an excuse.

Oats Movement in December

Receipts and shipments of oats at the various markets during December, compared with December, 1939, in bushels, were:

	Receipts		Shipments	
	1940	1939	1940	1939
Baltimore	60,405	81,426	.....	.....
Boston	8,000	13,600	.....	.....
Chicago	2,090,000	1,158,000	959,000	1,082,000
Duluth	82,707	487,901	140,058	1,564,936
Indianapolis	154,000	214,000	532,000	264,000
Kansas City	166,000	128,000	58,000	132,000
Milwaukee	74,580	45,200	43,700	49,400
Minneapolis	1,714,500	1,626,750	1,800,000	1,485,000
Omaha	120,000	232,000	96,887	220,535
Peoria	176,000	298,000	144,000	270,000
Philadelphia	7,876	13,433	5,138	8,226
St. Joseph	500,000	160,000	42,000	60,000
St. Louis	194,000	386,000	144,000	210,000
Superior	57,301	291,097	124,261	40,512
Toledo	157,500	603,900	163,800	617,210
Wichita	.....	7,500	.....	.....

Rye Movement in December

Receipts and shipments of rye at the various markets during December, compared with December, 1939, in bushels, were:

	Receipts		Shipments	
	1940	1939	1940	1939
Baltimore	72,729	391,731	.....	121,273
Chicago	253,000	37,000	457,000	165,000
Duluth	13,688	346,841	113,595	381,112
Hutchinson	1,500	.....	.....	.....
Indianapolis	162,000	96,000	46,000	42,000
Kansas City	10,500	42,000	3,000	3,000
Milwaukee	24,160	305,640	87,850	18,825
Minneapolis	426,000	1,345,500	298,500	766,500
Omaha	5,782	87,565	16,800	70,000
Peoria	67,200	19,600	2,400	2,400
Philadelphia	.....	.....	3,524	4,720
St. Joseph	.....	4,500	.....	.....
St. Louis	12,000	16,500	13,600	15,000
Superior	3,620	314,608	48,515	52,600
Toledo	7,000	12,600	1,400	1,000

Corn Supply, Sales, Receipts and Grindings

For the crop years beginning October, 1926, the U. S. Dept. of Agriculture reports the disposition of the corn crops as follows in thousand bushels:

Year beginning October	Carry-over (farm and market) plus corn grain produced	Corn sold off farms	Receipts at 10 markets[1]	Percent receipts are of corn grain supply	Wet-process corn grindings[2]
1926-27	2,418,212	467,602	229,235	9.5	82,040
1927-28	2,435,471	506,173	297,664	12.2	88,091
1928-29	2,353,190	535,553	266,489	11.3	87,202
1929-30	2,283,378	459,318	237,662	10.4	79,958
1930-31	1,893,570	326,691	181,673	9.6	66,489
1931-32	2,397,896	437,102	131,171	5.5	62,463
1932-33	2,846,740	553,011	225,250	7.9	71,815
1933-34	2,489,629	403,314	201,282	8.1	70,540
1934-35	1,483,774	136,671	99,221	6.7	55,271
1935-36	2,080,083	375,521	183,350	8.8	75,826
1936-37	1,433,313	212,681	126,442	8.8	66,816
1937-38	2,416,521	562,963	309,178	12.8	71,647
1938-39	2,666,358	566,895	222,142	8.3	75,531
1939-40	2,925,253	595,788	227,875	7.8	83,074
1940-41	2,877,049	631,958	.....	...	.....

[1]The markets included from 1919-20 to 1925-26 were: Chicago, Duluth, Indianapolis, Kansas City, Omaha, St. Louis, Milwaukee, Minneapolis, Peoria, and Toledo. Data were taken from Chicago Daily Trade Bulletin and included 11 markets to June, 1933. Toledo was dropped in June, 1933, and Detroit in June, 1936.

[2]Compiled by the Corn Refiners' Statistical Bureau. Beginning 1935 receipts are for 9 markets.

The 1940 Flax Crop

Minneapolis, Minn., Jan. 4.—A further study of the government's final report on the 1940 flax crop revealed production estimate of 31,127,000 bus. has only been exceeded in this country in two years. In 1902 production was 36,080,000 bus. (a record), and in 1924, 31,547,000 bus. Abandonment in 1940 totaled 175,000 acres or 5.1% of the planted acreage compared with a ten-year average of 632,000 acres abandoned or 26% of the planted acreage. The 1940 yield of 9.6 bushels per acre is larger than in any year since 1915 when the average was 10.1 bushels per acre.—Archer-Daniel-Midland Co.

Corn Movement in December

Receipts and shipments of corn at the various markets during December, compared with December, 1939, in bushels, were:

	Receipts		Shipments	
	1940	1939	1940	1939
Baltimore	683,111	1,226,524	.....	709,064
Chicago	7,854,000	7,028,000	3,492,000	2,332,000
Duluth	539,361	2,075,272	730,710	476,000
Indianapolis	1,953,000	2,247,000	1,309,000	1,465,500
Kansas City	1,737,400	1,605,000	130,500	445,500
Milwaukee	846,300	587,450	193,700	59,800
Minneapolis	1,303,500	2,398,500	843,000	1,779,000
Omaha	1,204,199	874,868	914,200	975,580
Peoria	2,383,500	1,843,500	1,445,400	530,800
Philadelphia	123,388	417,886	53,390	257,853
St. Joseph	741,000	432,000	400,500	213,000
St. Louis	1,149,000	1,954,000	513,500	538,500
Superior	257,050	904,942	216,710	126,000
Toledo	555,800	957,600	343,000	585,240
Wichita	14,300	7,800	5,200	.....

Wheat Movement in December

Receipts and shipments of wheat at the various markets during December, compared with December, 1939, in bushels, were:

	Receipts		Shipments	
	1940	1939	1940	1939
Baltimore	1,008,610	3,320,032	510,963	277,581
Boston	.....	589,515	.....	602,049
Chicago	736,000	751,000	852,000	976,000
Duluth	5,120,666	2,695,153	2,587,783	3,639,658
Hutchinson	638,400	779,800	.....	.....
Indianapolis	91,000	192,000	63,000	143,000
Kansas City	1,577,600	2,081,600	1,984,420	2,126,835
Milwaukee	3,140	4,620	64,400	305,400
Minneapolis	30,839,000	5,325,000	1,821,000	1,759,500
Omaha	288,004	456,770	168,100	509,690
Peoria	101,100	51,000	134,100	154,600
Philadelphia	732,737	813,514	86,602	710,850
St. Joseph	145,600	204,800	392,000	446,400
St. Louis	592,500	655,500	697,500	800,000
Superior	1,838,017	1,375,619	627,895	534,631
Toledo	623,185	574,500	321,000	265,945
Wichita	1,170,000	1,003,500	694,500	786,000

Archer-Daniels-Midland Concrete Elevator at Decatur, Ill.

[Continued from page 17]

distance of 656 feet. This gallery is equipped with a conveyor belt so arranged as to discharge meal from the belt to a car located at any point within the 656' distance. It is also arranged to load any two or three cars simultaneously.

All work in connection with this entire plant was designed by the McKenzie-Hague Co. and all structures and equipment installed by it, except special solvent plant and milling machinery. These were furnished and installed by the owner.

The ground on which the plant is located consists of 25 acres of land and utilizes approximately five miles of railroad track for its special use. It is served by the Illinois Central Railroad and by the Illinois Terminal Service Co., each having a connection for direct switching into the property.

The electrical wiring system for light, power and signals was planned, engineered and installed by the Industrial Electric Co., with a definite purpose to provide greater efficiency and flexibility of operation as well as maximum dependability in service.

The Richardson Automatic Box Car Dumper was installed to unload inbound grain. This machine is installed on the west side of the house where ample trackage is available for both loaded and empty cars. Loaded cars are brought up to the dumper by means of a car puller and sufficient down grade is provided beyond the machine so that the empty cars roll away by gravity. Grain from the car being unloaded is discharged into a 2,000 bu. receiving hopper from which short belt conveyors take it to the 25,000 bu. per hour elevating leg.

The dumper house is fully equipped with dust collectors and the necessary signal system to coordinate operation with the scale floor. An automatic de-rail ahead of the unloader comes into place each time the car clamps are raised. This car unloader, having been fully erected and tested at the factory before shipment, was put into immediate service and it unloaded cars almost continuously until all storage bins were filled.

The drying equipment in this plant consists of two Randolph Oil Electric Driers, each having a capacity of 1,000 bushels per hour. The temperatures are controlled by means of the Randolph Electrical Thermostat system. The building is so constructed, that the bins above each drier have sufficient storage room for several carloads of beans. Bins of the same capacity are provided beneath the cooler and beneath the cooler storage bins are two oil burning furnaces. This arrangement permits the operator to handle beans through the drier, independently of the rest of the plant.

A complete Day dust control system was installed in the basement of the working house, providing suction to all leg boots, belt discharges, re-loaders, and including floor sweeps throughout this section of the elevator. A 4,000 cu. ft. dust tank was installed over track shed and Duel-Clone collectors installed on the suction system and on the cleaning machines installed. The car dumper unit is provided with independent suction system with the separated dust spouted back to the dumper pit.

Floor fittings have been installed in the bin floor slab for the future installation of the Zeleny Thermometer System, for determining the temperature of the grain in store.

Washington, D. C.—The American Red Cross is reported to have offered to Spain, under specific conditions, a cargo of either wheat or flour.

London, Eng.—Great Britain is reported to have lifted the blockade on unoccupied southern France for passage of American foodstuffs to be distributed under direct supervision of the Red Cross.

Here are several of the 31 A.A.A. steel bins clustered around the 25,000 bu. elevator of the Farmers Cooperative Co., at Cedar Falls, Ia., 5 holding 1,000 bus. of C.C.C. corn each, 6 holding 2,500 bus. each, and 20 holding 1,900 bus. each. The company erected 44 additional bins of the 2,850 bu. size a mile out of town last fall and filled all but 4.

A statement of the loans and commodities owned by the Commodity Credit Corp., issued by the latter and covering the period up to and including Nov. 30, last, shows the corporation holding 335,774,153 bus. of corn as collateral for $204,906,146.47 in loans held by the C. C. C., and $362,582.99 in commodity loans held by banks.

The bushel total of 1939 corn involved was 268,563,100; of 1938 corn, 67,199,747; of 1937 corn, 11,306. Loans on 1937 corn, amounting to $21,865,887.14 had been repaid or adjusted. The total of C. C. C. loans on corn since 1933 was shown as $482,863,609.04, of which $277,957,462.57, or little more than half, had been repaid or adjusted.

In a report thru Mar. 27, 1940, the C. C. C. admitted loans by the corporation and lending agencies, aggregating $148,194,673.50 on 260,367,951 bus. of 1939 corn. Iowa farmers received the lion's share of these loans, getting $69,248,734.38 on 121,525,058 bus.

Iowa, the largest corn-producing state in the Union (503,776,000 bus. on 9,688,000 acres in 1939), with the greatest volume of corn under seal to the Commodity Credit Corp., obviously has made the largest deliveries of corn to the Commodity Credit Corp. in satisfaction of these loans. Iowa, accordingly, shows more C. C. C. corn held in steel bins and in country elevators than any other state, and a cross-section of the convictions of Iowa grain dealers is a key to the feelings of grain dealers thruout the Corn Belt in regard to the government's corn loan program and their satisfaction or dissatisfaction with the operations of the C. C. C.

Tabulation of numerous replies to a questionaire sent to Iowa grain dealers by Grain & Feed Journals reveals a surprisingly wide variation in their state of satisfaction with the C. C. C. as a competitor making use of their grain-handling facilities. Most of them would prefer that the government stayed out of the grain business, but this preference is not unanimous. One reply gave every evidence of being satisfied and hoped to sign up with the C. C. C. to handle government corn for the next "three years."

IOWA GRAIN DEALERS are full of complaint about the red tape of A. A. A. county com'ites, grades, reports, rate of payment for their services, and speed of returns, but virtually all of them have accepted the necessity for dealing with the C. C. C. in good grace, and have demonstrated a disposition to cooperate to the best of their ability.

The replies to the questionaire included several who had not handled C. C. C. corn and had no contracts of any kind with the C. C. C. Forty-four had from six to 120 steel bins located somewhere near their elevators or on farm land just outside of town, packed with from 14,000 to 281,949 bus. of C. C. C. corn.

In most cases all of the bins were loaded, either with 1938 corn, or with 1939 corn, or both; tho several showed from one to three bins erected in 1940 as empty, deliveries during the period in late fall when prices to farmers enabled them to sell their corn on a basis nearly equal to their C. C. C. loans, having been insufficient to fully fill anticipated steel bin storage requirements. Most of the replies showed that additional steel bins had been erected to hold deliveries of 1939 corn in the fall of 1940.

Steel bins erected last fall show benefits from the experiences of a year ago. Nearly all of the new bins are of better construction, and of larger capacity. Capacities of the new bins were all shown at 2,850 bus., and most of them were loaded with 3,000 bus. of corn.

The method for loading the steel bins is the portable farm-type loader, or hiker. Only a few replies mentioned a blower, and in these cases a farm hiker of some kind was mentioned also. Apparently blowers have been discarded as a suitable means of loading steel bins.

In some cases the elevator operator took over the entire job of erecting, weighing and filling the steel bins. In other cases county com'ites divided the job, erecting the bins under one contract and contracting with the elevator for weighing and filling the bins, or letting the elevator do the weighing, and having the bins filled by some farmer who possessed a hiker.

NORMAL CHARGES allowed for weighing and for filling the steel bins was 1c per bu., this being raised to 1¼c in two instances. Weighing and sampling alone was done at from ⅛c to ¾c per bu. One operator received ¾c for weighing, ½c for filling the bins, 1c for unloading the bins, and 1½c for re-weighing, running the grain thru his elevator and loading it into cars.

Dissatisfaction was prevalent on the returns allowed for erecting and filling steel bins, and with the returns for weighing grain and loading it into bins that had been erected by county com'ites. Common charges allowed for the entire service was 2¾c per bu., with the elevator donating the tile or concrete block used for a retaining wall for the sand-fill under the tanks.

The defeatist attitude of an elevator operator in the heart of northwestern Iowa's most intensive corn-producing district is reflected in the rates paid thruout this area. When steel bins were first offered the elevators in the fall of 1939, he ordered a carload of them, saying: "We're stuck. We're not going to be allowed to make any money on C. C. C. corn. And we're going to have to cooperate whether we want to or not, even at a loss."

IN EASTERN IOWA, far removed from this area, county A. A. A. com'ites commonly paid the elevator operators 3c per bu. for erecting and filling steel bins. But in the eastern part of the state, where feeding is practiced intensely, loans were fewer, deliveries to the C. C. C. were light, and the number of bins erected was small. This situation automatically ruled out the theory of volume which so often besets grain dealers in high-producing areas. Grain dealers in eastern Iowa know that they cannot depend upon large volume to pile hazardous margins into a net gain for the year.

Peculiarly, the replies show county com'ites,

acting as agents for the C. C. C., commonly handling all C. C. C. corn thru a single elevator. Thirty-one replies showed that those questioned had handled all of the C. C. C. corn shipped from their stations. A number of others gave answers that indicated they may have shipped all of the C. C. C. corn shipped from their stations. Only two replies indicated unquestionable division of C. C. C. business among all of the elevators located at a station, one showing shipment of one-third of the total C. C. C. volume, another one-half.

DAMAGE FROM HEATING and from insects infesting C. C. C. corn stored in steel bins for a year varied widely. The range was from none to 95 per cent. Several replies mentioned two or three bins being infested; others from 40 bus. to 47,000 bus. One said that the county com'ite, on discovering insect infestation, had promptly ordered all bins fumigated. Fourteen of the replies mentioned insects and heating of corn in steel bins; six neglected to answer this question, the remainder answered "none."

The majority of the elevator operators expressed satisfaction with the 2½c per bu. allowed them under Form H of the C. C. C. for receiving and shipping government corn, and with the 7c per bu. per annum allowed them for storage, especially since the corn was frequently ordered out before expiration of the year. Twenty-three replies said they had stored or were storing C. C. C. corn, holding from 4,700 bus. to 126,000 bus. The range of government corn held in the majority of instances was from 10,000 to 50,000 bus.

Some complaint was registered over the fact that Form H holds the grain dealer responsible for shrinkage and grades; and 25 showed they had to accept some shrink on the grain they shipped. But in 39 replies the elevator operators showed themselves well pleased with the grades returned by the C. C. C. on their shipments. Only five had suffered any loss due to deterioration or failure to grade at terminals, and two of these said they had suffered loss on only one car. One complained that the county com'ite thru which he dealt had graded the grain wrong.

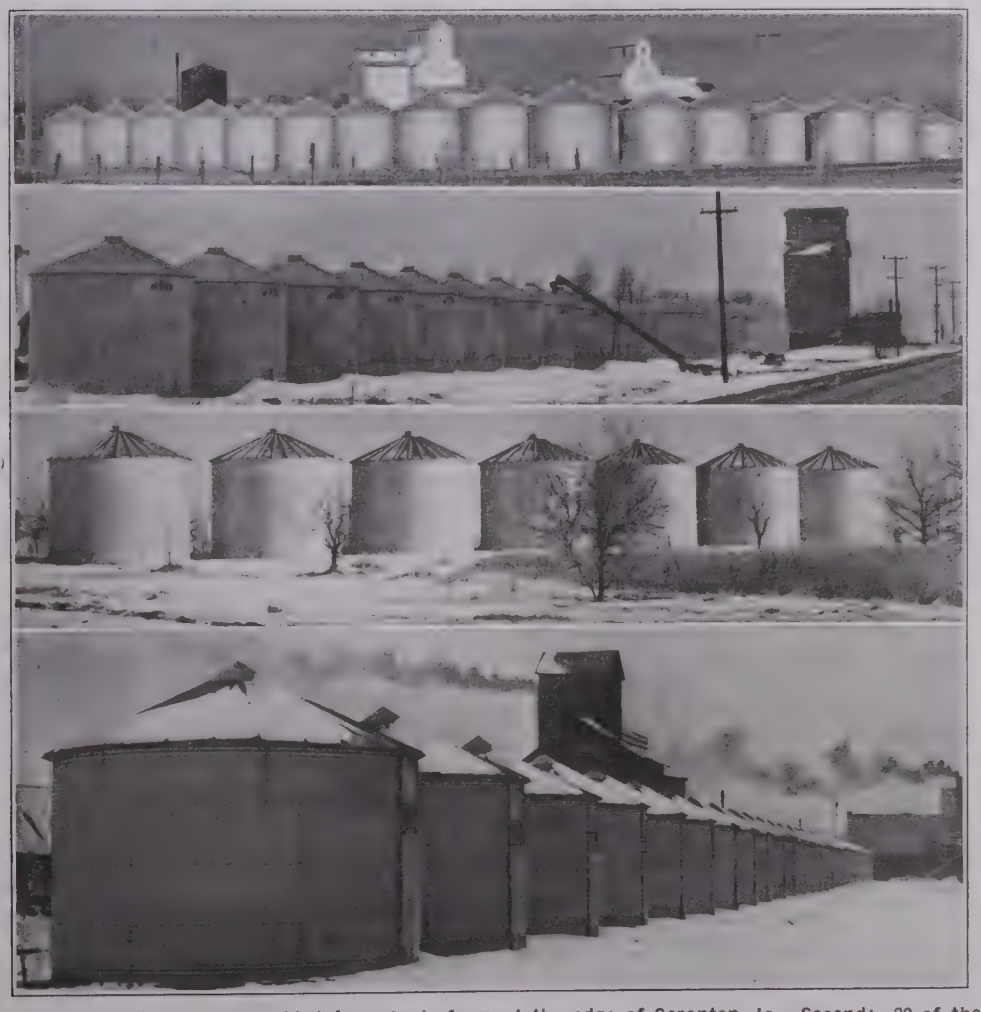
It was on the question "Were you paid promptly for storing, loading out or shipping C. C. C. corn?" that an avalanche of complaint descended. The questionaires returned are full of heavily underscored "No"s. "Settlement far too slow," was a mild answer to this question. One said, "Oh, no!" like he didn't expect prompt payment. Two said, "Not paid to date!" Another, "I should say not! Very, very slow." Only eight said the C. C. C. had been prompt in payment for services rendered, and these failed to specify what they meant by "prompt." All the rest complained that the C. C. C. was from two to six months behind in making settlements, and they considered this unnecessarily long.

The replies are a good cross-section of the Iowa grain trade. They represent 1,659 steel bins ranging in capacity from 1,000 to 3,000 bus. each, and filled with a total of 4,475,000 bus. of C. C. C. corn, and they represent 23 elevators holding an aggregate of 659,285 bus. of C. C. C. corn in elevator bins.

Aside from the slowness of payments made by the C. C. C., which often forces grain dealers to borrow money from local banks for current expenses, and a rumble of dissatisfaction with allowances for erecting and filling steel bins for county com'ites, grain dealers generally appear satisfied with the treatment they have received at the hands of the Commodity Credit Corp. But their experience has left them a bit fearful of new deals. Prominent in their mind now is "Will we be allowed reasonable compensation for emptying and hauling grain from steel bins to our elevators should we be asked to transfer the government corn stored in these bins?"

This question constitutes a real worry. Steel bins in Iowa are not assembled in large tank farms after the manner of assembly in other states. They are scattered about the villages and on adjoining farm land, ordinarily in blocks of six to 20, and frequently located a mile or more from the elevator. Taking corn out of the steel bins and hauling it to the elevator is like extending a pick-up service to the farmers' cribs.

C. C. C. Form H establishes as fair a rate of 2½c per bu. for receiving and shipping C. C. C. corn. But this rate will turn into a genuine loss if bin pick-up service is added to the duties of the grain dealer in separate contracts forced on them thru county A. A. A. com'ites, as has been attempted in a few cases. Such evasion of an accepted contract basis they cannot consider fair.



Top: Steel bins are assembled in a tank farm at the edge of Scranton, Ia. Second: 20 of the 88 steel bins filled by the Highview Cooperative Elevator at Highview, Ia.; 68 of the 88 bins hold 2,500 bus. of C.C.C. corn each, the remainder nearly 3 000 bus. each, five of these remaining unfilled. Third: 7 of the 2,850 bu. steel bins erected about half a mile from elevator of Clarence Cooperative Co., at Clarence, Ia., and holding 3,000 bus. each. The company has nine bins erected in 1939 around the elevator, holding 20,000 bus. of 1938 crop corn. Bottom: 58 steel bins have been filled by the Community Cooperative Ass'n at Webster City, Ia. Most of them are stretched in single lines between tracks of I. C. and C. & N. W. railroads. Here are 20.

Grading New Wheat Varieties

By O. F. Phillips, chairman Board of Review, Federal Grain Supervision, before Am. Soc. of Agronomy

When our standards for wheat were first promulgated in 1917 they were divided into six major classes, namely, hard red spring, durum, hard red winter, soft red winter, white wheat, and mixed wheat. This seemed a natural and logical division and, in general, the varieties that were placed in each class met the particular requirements of that class. There was no particular difficulty from an inspection standpoint in differentiating between white wheat and durum wheat, or between these two classes and the red wheats.

It is well to recall that at that time (1917) the principal soft red winter wheats were Fultz, Fulcaster, Mediterranean, Poole, Red May, and Harvest Queen. Although there were many other minor varieties they were all generally characterized by a relatively soft texture, large germ, open or pitted crease, and rounded cheeks.

With the renewed application of the Mendelian theory, new fields were opened to the plant breeders and variety, class, and even species crosses, unthought of before, began to appear.

When new varieties, resulting from crosses of wheats of distinctly different classes or physical characteristics, began to appear in which the kernel characteristics were not definitely similar to either parent, then our difficulties began.

Of the newer varieties, Kawvale, a selection from Old Indiana Swamp, a soft red winter wheat, is presenting a perplexing problem. Originally introduced in Kansas, it is rapidly spreading in Oklahoma, Missouri, and Illinois. About 15,000,000 bus. were produced in 1939. It is not wanted by either the soft wheat millers or the hard wheat millers. We grade it soft red winter because it cannot always be distinguished from other known soft wheat varieties grown in the same area, or, to put it another way, other soft wheat varieties cannot be distinguished from Kawvale.

Tenmarq varies considerably in its kernel characteristics and when grown in Nebraska cannot always be told from spring varieties.

You can readily see what it means to a producer and what complaints from him mean to our department if he ships a car of wheat from certified seed of a new hard red winter variety and it grades soft red winter when hard red winter wheat in his territory is selling at two or three cents premium.

Elevator Manager's Work in Crop Improvement

By H. O. PUTNAM, of N-W Crop Improvement Ass'n before Farmers Elevator Ass'n of South Dakota

A SUCCESSFUL ELEVATOR MANAGER is not just a grain buyer, but has sold himself to his patrons thru service in such a way that they rely on his recommendations. He has many opportunities to improve and increase his business if he makes the proper use of them. This requires that special attention be given to each patron, especially those who deliver inferior grain because they are often somewhat dissatisfied with the price they receive. Such conditions require time, patience and diplomacy.

THE FARMER has spent many hours of labor to produce his crop and when it is of inferior quality we should diplomatically explain to him why such a grade is undesirable, even though it may be due entirely to factors not under the producer's control.

VARIETY is important in all grains as a certain percentage of many of them are used for human food. Grain for human consumption should be of an acceptable variety, clean, bright, free of damage caused by diseases and weather, free of other grains and, for instance wheat classes should not be mixed.

MIXED WHEATS are a serious problem in our spring wheat states because we merge into the winter wheat area as well as growing other classes of wheat. South Dakota grows most of them, durum, red durum, white, hard red spring, winter and last, but not least, mixed wheat. Wheat survey figures for the 1939 crop show that 10.6% of the Brown County wheat graded mixed; 21.4% of the Day County wheat was mixed and 7.8% of the Roberts County wheat was mixed while the Minneapolis average receipts of mixed wheat is only 4.9%. The South Dakota average contributes to the Minneapolis average which would be lowered with improvement in your state. This 4.9% was largely mixed durum that contained red durum, white and hard red spring wheat as well as amber durum.

Mixtures are undesirable because each class of wheat has its own specific use. Amber durum for semolina, red durum for feed, white wheat for bread and pastry, hard red winter and hard red spring for the superior common pan bread. Hard red spring is also used in special breads, such as Cuban, French and Vienna and hard rolls which require stronger doughs produced from flours of higher protein content and this protein must be of good quality.

If an entire community would grow a single class of wheat it would eliminate much of the mixed wheat. You should urge all patrons, who deliver mixed classes of wheat to your elevator, to secure pure seed. The percentage of spring wheat mixture in durum gradually increases because hard red spring wheat stools more than the durum.

REPUTATION OF SHIPPING STATION.—You may say, "Why worry about the variety of wheat or barley, I receive my commission regardless of variety." This is true, but the reputation of a shipping point is an all important matter to you as a successful manager. The reputation of the processor, miller or maltster is equally important to them.

HIGH PROTEIN wheat does not necessarily designate a high quality product. Marvel wheat, is often high in protein but the protein lacks quality. This variety usually sells at a discount of 5 to 10c less per bushel than the same grade and protein wheat of an acceptable variety. Many flour mills will not even place a bid on Marvel while others use it in some of their cheaper flours. There are other varieties that fall into this class such as Java, Chirka and Progress.

VARIETY MILLING AND BAKING TESTS.—The Northwest Crop Improvement Ass'n conducts milling and baking trials in a careful manner. These tests have been conducted for the past ten years. We obtain all new varieties or selections as soon as possible and often several years before they are publicly announced, thus enabling us to test them for two or three years before forming an opinion of their milling and baking value. These wheats are grown on farms or at experiment stations in cooperation with the states of Montana, North Dakota, Minnesota and South Dakota. Thatcher is grown as a standard in each plot with other varieties to be tested. They are grown on land that has a similar past history of cropping and all on land that had similar cultural methods the previous year such as summer fallowed land or corn land. Each plot may contain from thee to eight varieties. The Ass'n often supplies registered seed of the new varieties to these cooperators thus assuring themselves of pure varieties for the tests.

When the grain is threshed, 60 bushels of each variety from each plot is shipped to us and all wheat is milled in one of the large experimental mills. Samples of the various flours are then sent to approximately twenty baking laboratories under number rather than name where they are baked and rated as to their baking value. Such laboratories include the state laboratories of Minnesota, North Dakota, Montana and Kansas; the U. S. Department of Agriculture laboratory at Washington; the Dominion Rust Laboratory at Winnipeg as well as the commercial laboratories of the spring wheat mills. After reports have been received from the various laboratories the data is assembled and averaged to enable cereal chemists, agronomists and our Wheat Variety Com'ite to draw the correct conclusions relating to each new variety.

Hence, any recommendations made are the united opinion of the spring wheat mills rather than the opinion of any one individual or from a single test of any new variety.

BARLEY grades have been a fertile source of argument especially between South Dakota and Minnesota barley. When you know the reason why some malt buyers prefer Minnesota barley in preference to that from South Dakota there is no argument.

THE BREWER desires a mellow malt while other malt buyers, the distillers for instance, demand a malt high in diastase. Mellow malt is obtained from a mellow barley that can only be produced where rainfall is ample. The leading variety in this section is Wisconsin 38 which has a lower diastatic ability than the Manchurian types of barley. The growing of Wisconsin 38 in the best barley areas usually supplies plenty of mellow barley for the brewers but it does not have sufficient diastatic action to meet the requirements of other malt buyers.

This switch to Wisconsin 38 has changed the barley situation and caused the malting barley buyer to look for a limited amount of higher diastatic barleys thus enabling them to meet all types of trade demands. Manchuria and Odessa usually meet this requirement and South Dakota has profited by the higher prices paid for harder barley. She should continue the growing of Odessa because producers stand a better chance of annually producing premium Odessa than premium Wisconsin 38. The reason being that Wisconsin 38 from South Dakota must compete with the malting barley area where rainfall is more plentiful.

WEEDS are a problem in that they decrease crop yield, thus decreasing the volume of quality grain handled as well as increasing freight charges against the grain shipped.

FLAX has carried a high dockage. Elevator surveys were made in Brown, Day and Roberts Counties last year, primarily to learn the number of cars of mixed wheat and smutty wheat, but while obtaining this information we listed the number of cars of flax shipped and the percentage of dockage in each car.

Brown County averaged 26.3% dockage, Day 24.4% dockage and Roberts 22.5% dockage. The average flax dockage for the Minneapolis market is 15%. Minnesota flax dockage runs lower than the Dakotas. And Why? Because a campaign, led by elevator men and others, has been carried on urging farmers to use clean seed, to sow flax early on a well packed seed bed and in clean ground. Summer fallow, corn or potato ground, perhaps produce the best flax crop the following year.

A flax grower should give the area where he intends to sow flax an extra cultivation to kill the weeds thus assuring himself of cleaner ground. His flax seed should be free of weed seed. Few elevators and fewer farmers have the proper cleaning equipment for flax.

Last year the Flax Institute, in cooperation with the Minnesota Extension Service, built a complete demonstration cleaning unit on a truck which was used in several counties in Minnesota. This included a Viking mill, a Carter Disc cleaner and a seed treater. They were able to clean Bison flax so that it contained less than 2% of weed seeds.

Much of our farm seed flax contains seven or eight percent of weed seed after cleaning. This means that we are sowing too high a percentage of weed seed which germinates, takes away the moisture needed for the flax crop and causes a high weed seed content in the harvested grain.

The South Dakota Extension Service plans to cooperate with the Flax Institute in holding cleaning demonstrations in your flax area during January. You should urge attendance at these meetings as well as urging all flax growers **to sow clean seed.**

DISEASE causes losses to the farmer and in turn losses to the elevator man because it often decreases the volume of grain to be handled.

SMUT is often foremost in our minds but other diseases are reducing our yields. Fungus organisms that cause the grade notation of "blight" are often responsible for root rots and seedling blights. Blight has been prevalent in much of our 1940 durum crop and made some of it unsuitable for milling purposes. Blight often decreases the value of barley. No. 3 malting barley cannot contain over 4% of blighted kernels.

Scab causes decreased yield and quality. It attacks corn, wheat and barley. This fungus lives over winter on corn stalks and straw ready to attack the new crop when moisture and temperature conditions are favorable to its growth. If such refuse is well plowed under it decreases the amount of disease spores available for infection during the next growing season.

SEED TREATMENT is usually a safe recommendation to make at any time. Most diseases can be partially or completely controlled by proper crop rotation and seed treatment both of which need emphasis in every community.

There are several chemicals offered for seed treatment such as formaldehyde, copper carbonate and ethyl-mercury phosphate. They are all effective in the control of certain smuts but we believe Ceresan is the most practical one. It decreases seedling blights in wheat, barley, oats, rye and often improves the flax stand in certain areas. Thus, germination can be improved especially when grain is infected with blight and scab.

Ceresan protects wheat against stinking smut, oats against loose and covered smut, barley

against covered smut and barley stripe and rye against stem smut. Chemical seed treatment will not control corn smut or loose smut in wheat and barley. Ceresan does not clog the drill as some other dust treatments will do. It has the advantage in that seed may be treated at any time during the winter as it will not damage germination if used in the proper amount.

Seed treatment may be done by an elevator that has the necessary equipment or it may be done on the farm. A farm seed treater can be built at a cost ranging from $3 to $5 depending upon the desired capacity. The acre cost for treating will range from 2 to 4c depending upon the rate of sowing.

So far, we have discussed factors relating to reputation and crop yields of your community.

ELEVATOR MANAGER'S DUTY.—Make use of your spare time by explaining and demonstrating to your patrons the reason, or reasons, for degrading various grains. Malting barley, for instance, must be fairly free of blight. Why? Because this fungus damages germination that is so all important to the maltster who wishes his barley to germinate as nearly 100% as possible. Blight also produces mold organisms during the malting process which lowers the grade of malt produced and it has been known to cause damage in malt products such as malt syrups.

Seed treatment is important, it should be an annual routine task because fungus diseases have favorable years as well as unfavorable ones. The grower cannot guess disease germs in the spring any better than he can foretell crop yields before planting. Urge seed treatment and assist your patrons in securing clean seed grain thus decreasing the dockage in the grain you handle the following fall.

You can improve the reputation of your station by keeping a weather eye for unrecommended varieties and discouraging them. You can secure information relating to the varieties of wheat, barley and oats recommended for your community and when some one asks you for information about some variety new to you, be on the alert, contact your county agent, write the extension service of your state college or to us for all possible information.

THE REPUTATION of his station should be maintained by every manager and the first prerequisite is the growing of acceptable varieties in the community. Value of personal contacts should be kept in mind by every elevator manager. Useful, inexpensive services properly rendered to your patrons always assist in strengthening the coveted bonds of friendship which are extremely vital to a successful elevator manager. You should urge your patrons to grow varieties that have been recommended by your experiment station and the crop improvement association. They are recommended because they have proven to be the best available both for the growers and the processors.

We mentioned semolina which is a durum product. Those of you who buy durum wheat know that the durum processors prefer semolina from Mindum and Kubanka because the macaroni purchaser is exacting and discriminating when he buys macaroni products. Color and appearance are his chief guides. Acme, Nodak and Monad make a product of poor color which is not acceptable to the exacting consumer of macaroni products.

Boost crop improvement meetings and seed clinics in your community by urging that your patrons attend. A card or letter from you will help in bringing someone to the meeting. Seed clinics require both advance and follow-up work because their success is measured in terms of the number of samples brought in for analysis and the number of seed changes made when a new seed is needed. You may help the farmer in securing his new seed.

These activities should lead to a better understanding between manager and customer as well as increasing the volume of grain grown which spells increased income to the entire community.

Loaders and Helpers Under Interstate Commerce Commission

After hearings an examiner for the Interstate Commerce Commission has submitted recommendations that it should assume jurisdiction over the hours of service of loaders and drivers' helpers as well as drivers employed by common, contract, and private motor carriers of property in interstate or foreign commerce. All other employes of carriers of property other than drivers, loaders and helpers were found not to be subject to regulation by the Commission.

The determination of this question was necessary since all employees engaged in interstate commerce not subject to Interstate Commerce Commission jurisdiction are held by the wage-hour division to be subject to the hour provisions of the Fair Labor Standards Act.

It was also recommended that the Commission hold a further hearing to determine what regulations should be prescribed applicable to loaders and helpers employed by all motor carriers of property.

Marketing Quotas on Corn in Prospect

Warnings that the Agricultural Adjustment Administration may ask farmers to vote for adoption of marketing quotas for the 1941 corn crop have begun to pop out under pressure from the vast quantities of corn now held in Wallace's "ever-normal" granary.

Elmer Messman, A.A.A. field man at Bloomington, Ill., told McLean county A.A.A. com'itemen that corn supplies this fall were at a point at which a referendum might have to be called. Alfred L. Johnson, South Dakota A.A.A. com'iteman, told the South Dakota Farmers Elevator Ass'n last month of the marketing troubles of Canadian wheat farmers that have grown out of their production of an overburdening surplus of wheat.

The quota system held in prospect limits the amount of corn each farmer can sell, and provides penalties of 15c per bu. on any sales in excess of the quota allowed. Invoking the quota system depends upon approval of 67% of the farmers voting, but the A.A.A. holds the whip hand in that failure on the part of the farmers to vote approval would automatically discontinue the corn loan program.

R. M. Evans, A.A.A. administrator at Washington, D. C., sugar-coating the prospective marketing quota system before the annual meeting of the American Farm Buro Federation at Baltimore, spoke favorably of a program to increase federal loans from the present 75% of parity to 100% of parity as an alternative to price-fixing for corn, wheat, cotton, tobacco and rice, the so-called basic crops. Loans made by the Commodity Credit Corp. to peg the price of corn at approximately 82c per bu., wheat at $1.12, cotton at 15.75c per pound, and tobacco and rice proportionately, according to Mr. Evans, "would bring participation among farmers in the A.A.A. program to virtually 100%, provided that compulsory marketing quotas were placed into effect at the same time."

Mr. Evans made an issue of quotas. He said: "One point that I want to emphasize very strongly is that marketing quotas and high penalties for noncompliance would be essential for a high loan policy. Otherwise, noncooperating farmers might expand their production and take advantage of the rise in market prices that would result from the loan program."

The Administrator proposed as another alternative to the present A.A.A. farm loan program the certificate plan, whereby marketing certificates with values based on a prescribed formula would operate to force the burden of higher farm prices on the manufacturers and users of basic farm commodities. Its use would require strict regimentation of farmers thru rigid marketing quotas, with high penalties.

"Come what may," warned Administrator Evans, "there will have to be greater controls in our farm program. I can tell you frankly that the outlook now indicates the need for marketing quotas next year on wheat and corn as well as on cotton and tobacco."

Rat Damage Grades Corn Down

County com'itemen of the A.A.A., warns the Farmers Elevator Ass'n of South Dakota, have been advised to take note of grading rules as follows:

DISCOUNTS APPLICABLE to loan corn delivered to Commodity Credit Corp.: The Agricultural Marketing Service has interpreted the phrase, "which is otherwise of a distinctly low quality," to be applicable to corn containing rodent excreta. The U. S. Grain Standards now class corn, "sample grade" when such corn contains two-tenths of one per cent or more, by weight of rodent excreta.

Corn grading "sample" because of rodent excreta has been assessed a grade deficiency by the corporation, and in order that this may be uniform rate of deduction that can be computed in the county offices, the schedule of discounts contained in 40-Corn Loan 2 includes rodent excreta with a discount of 1 cent per bushel.

Corn grading "sample" because of stones and/or cinders, mustiness, or which has a commercially objectionable foreign odor, cockleburs, or rodent excreta, shall have a discount of 1 cent per bushel. This 1-cent discount applies to each item contained in the sample, and is cumulative provided each item of itself, warrants the corn to grade "sample."

The government's corn sealing and storage program has led to a considerable volume of rat damaged corn. A number of elevator operators have reduced discounts under the "distinctly low quality" provision in grading standards, by running corn over a suitable screen, thus screening out the rat dirt before shipping.

From Abroad

The Punjab of India is reported in need of more rain. Much of the large crop harvested last March is being held back.

Australia reports poor yields in the wheat harvest, tho the quality is good. Shipments to the Far East are hampered by the difficulty in finding vessel room.

Argentina has worked out a deal to supply Spain with 350,000 tons of wheat, subject to British blockade permission. Prior arrangements call for the shipment to Spain of 350,000 tons of corn and other cereals.

The combined 1940 wheat crop of China, Manchuria and Japan is estimated at 798,000,000 bushels compared with 763,000,000 bushels in 1939. The Chinese crop is placed at 700 million bushels against 667 million the year before, the Japanese crop at 66 million compared with 61 million, and the Manchurian crop at 32 million compared with 35 million. Yet there are acute regional shortages due to official interference with the normal movement of wheat from producing to non-producing areas.

Argentina's Ministry of Agriculture has stated that its government is expected to invest $25,000,000 in grain elevators thruout the country in connection with the Pinedo Plan (an Argentine New Deal), whereby the Argentine government has purchased practically the whole of last year's maize crop. The Ministry of Agriculture has announced willingness to sell as much maize as possible for internal consumption, but warns precautions will be taken to prevent maize on the cob being resold to the Grain Board.

Washington, D. C.—Sec'y of Agriculture Claude Wickard has urged farmers to increase hog production and send more cattle to market to meet an expected expanding domestic demand for meats arising from defense spending. Some quarters purport to see in his statement an attempt on the part of the administration to correct maladjustments caused by its grain loan programs.

A. E. Staley

Augustus Eugene Staley, Sr., founder and chairman of the board of the A. E. Staley Manufacturing Co., Decatur, Ill., passed away from the effects of a heart attack during the preceding week, at his winter home in Miami, Fla., Dec. 26, at the age of 73.

Born Feb. 25, 1867, at Julian, N. C., the son of a farmer impoverished by the Civil War, Mr. Staley's only education was gained in common schools. But this did not deter him in a career that began as a section hand on a railroad, and led up thru a series of sales jobs in the wholesale tobacco and grocery fields to his entrance into the starch packing and merchandising business in Baltimore, Md., in 1898.

Mr. Staley was known as a master salesman. His early success in the starch business in Baltimore was attributed to his selling ability. But he was also recognized as a dreamer, who visioned a great future. His vision, coupled with his flare for promotion and publicity, and his stubborn refusal to let obstacles baffle him, led to his entry into the starch manufacturing business in Decatur, Ill., in 1909. With purchase of the Wellington Starch Works in Decatur he began a meteoric rise that developed a $20,000,000 business.

The rise was not without reverses. The move to Decatur almost ruined him financially, because the plant was shut down for 15 months following outbreak of World War I. Mr. Staley, however, rallied, and turned failure into success with what was probably the most masterful selling job of his varied career. Taking $400,000 in bonds of the failing company, he sold them to the original buyers of the firm's nearly worthless stock. This was the turning point of the A. E. Staley Manufacturing Co. into the second largest manufacturer of corn products in the country.

Corn is the foundation of the Staley business and A. E. Staley always followed the grain markets day by day with an interest that rated close to obsession. A part of his early success in Decatur was attributed to what he called a "sixth sense" about grain prices, but what his associates called smart trading. His interest in grain went beyond prices, however, and led to erection of large storage facilities and a broad business in grain merchandising as well as manufacturing of corn products.

The Staley name was blazoned across the country during the '20s as a pioneer in soybean processing. With the installation of expellers in his Decatur plant he created a market outlet for central Illinois farmers who could be persuaded to grow soybeans, and he worked patiently and persistently to persuade farmers of this area that soybeans, then almost exclusively an oriental crop, could become a profitable crop for them. Early development of soybean acreage was fostered with fixed price contracts in which other companies joined with the Staley interests to develop sufficient acreage to produce a volume of soybean oil and meal sufficient to interest buyers of these products.

Mr. Staley relinquished the presidency of A. E. Staley Manufacturing Co. to his son, A. E. Staley, Jr., in 1932, and became chairman of the board of directors.

A. E. Staley, Decatur, Ill., Deceased

C. Vincent, Omaha, Neb., Deceased

Cherokee, Ia.—Five consecutive years of soybeans, drilled solid, plus plowing twice a year, will wipe out creeping jennie completely, according to Dr. A. L. Bakke, Iowa State College research botanist, who has conducted experiments at the state hospital farm. Creeping jennie, or bindweed, he says, is smothered out by the dense vegetation produced by the soybeans.

C. Vincent

C. Vincent, aged 84 years, one of the original members of the Omaha Grain Exchange and a pioneer in the grain trade of Nebraska, passed away Jan. 3. Funeral services were held the afternoon of Jan. 6 with interment at Forest Lawn. The Omaha Grain Exchange was closed for five minutes during the time of the services, as a tribute to his memory.

C. Vincent entered the grain business in 1904 prior to which time he edited a farm journal. He organized the Beal-Vincent Grain Co. of Omaha, which later, in June, 1916, became the Vincent Grain Co. At that time he operated seven elevators in Nebraska, with headquarters at Omaha.

Frederick Deibel

Frederick Deibel, prominent St. Louis grain merchant for half a century, passed away recently, at the age of 86.

Mr. Deibel had been in retirement for the last 10 years. Prior to his retirement he had held a membership in the St. Louis Merchants Exchange for 50 years.

Death came at the home of his son in Kirkwood, Mo. He was the father of Frederick H. Deibel, Jr., president of Elam Grain Co., who passed away Oct. 18, 1939, and of Robert Deibel, president of the Dixie Mills Co., in East St. Louis, Ill.

Barney Weller

Burt Irwin Weller, sheet metal manufacturer and beloved member of the elevator supply trade, passed away at his farm home in Highland, Ind., Dec. 27, following a brief period of illness. He was 63 years old.

Mr. Weller was born at Meadville, Pa., Mar. 22, 1877. He graduated from an engineering course at Alleghany College in 1899, and immediately broadened his training by engaging in structural steel work in Pittsburgh, Pa.

His specialized studies in the grain elevator construction field began when he became associated with the Barnett & Record Co. in 1903. Two years later he went with James Stewart Corp. In another year he was in the engineering department of Corn Products Refining Co., where he stayed for three years before returning to James Stewart Corp. in 1909.

During his tenure with grain elevator engineering and construction firms, Mr. Weller was superintendent of construction on many large terminal elevators built in the United States and at the head of the lakes in Canada. In this capacity he became well known to the terminal elevator trade in both the United States and Canada.

Mr. Weller organized his own company, the Weller Metal Products Co., in 1914, and established a factory at Hammond, Ind., moving later to East Chicago, Ind., where he specialized in designing and fabricating sheet metal work for grain elevators.

Altho he manufactured all types of sheet metal grain elevator spouting, distributors, conveyors and other forms of grain elevator equipment, Mr. Weller is perhaps best known for manufacturing and placing on the market the Calumet bucket, a high speed bucket that set up new standards for speed in elevating grain.

Prominent in ass'n affairs, Mr. Weller was one of the early members of the Society of Grain Elevator Superintendents, and took an active part in development of this organization.

Affectionately known as "Barney" to countless numbers of grain elevator operators and members of the supply trade, Mr. Weller will be missed from these circles. Hundreds of friends feel their loss in his passing, and extend their condolences to his widow, Letitia Ireland Weller.

Keokuk, Ia.—Purity Oats Co. was awarded a Red Cross contract for 18,000 bags of rolled oats for shipment to Greece Jan. 10. This order for 22 carloads of the 50 lb. type of bagged rolled oats virtually eliminates the customary seasonal lay-off at the local plant.

Frederick Deibel, Kirkwood, Mo., Deceased

Winter Wheat in the Spring Wheat Region

By Dr. Max C. Markley, chief chemist, Cargill, Inc.

The line of demarcation between the spring and winter wheat areas is not a clean-cut one running due east and west across the map. As a whole spring wheat is well adapted to most sections of Minnesota, the Dakotas and Montana. Winter wheats are successfully grown in southern and northeastern Minnesota, South Dakota, and southern and western Montana. Northeastern Montana, most of North Dakota and northwestern Minnesota do not appear to be winter wheat territory. Where winter killing is not a factor farmers prefer to seed at least part of their wheat acreage to winter wheat for the reason that this distributes the labor over a wider period of time and lessens the peak loads.

Winter killing is the principal limiting factor for winter wheat. This killing may be caused by a large number of factors including low temperatures, lack of protection, drought, ice and water smothering, premature breakage of dormancy and many others. In the Northwest the first three are of major importance. Occasionally in southern Minnesota ice smothering is a factor. Low temperatures accompanied by lack of snow cover account for most of the failures of winter wheat in North Dakota.

On the basis of minimum temperatures which winter wheat is known to survive, it should be hardy anywhere in the United States and over most of Canada. And on this reasoning winter wheat is frequently advocated for North Dakota. And a very small acreage is grown in most of the state with rather poor success on the whole. It does not appear to be increasing with any rapidity in North Dakota though it is in Minnesota and Montana. Dr. T. E. Stoa of the North Dakota Agricultural College has summed up the experiences of both the experiment station and North Dakota farmers in his bulletin "Winter Wheat in North Dakota."* In this bulletin Dr. Stoa emphasizes that under North Dakota conditions winter wheat must be provided with a snow-catch such as either standing corn or tall stubble. He further points out that it is not a matter of the minimum temperature, but rather the average temperature during the winter which determines the survival of the crop under open field or light cover conditions.

This latter conclusion is of much greater importance than it has ever been given credit for. It furnishes the key to the adaptability of the winter wheats to plains conditions. In the timber country of Northern Minnesota where three feet of snow on the level is the rule winter wheats are being grown successfully far north of Grand Rapids. The temperature here is the same as in Northern North Dakota where the crop is rarely successful. Relatively tender varieties of winter wheat are known to be hardy far north into Alberta along the edge of the Rocky Mountains. These observations rather conclusively eliminate minimum temperature as the major limiting factor. The mean winter temperature as indicated by Stoa affords a better working basis.

Following this line of reasoning mean temperatures were calculated for 115 stations in the Northwest for the months of November, December, January, February and March. The means in no case are for less than 10 years data. The data used is published in issue 13, volume XXV, of the "Climatological Data for the United States by Sections," 1938, from the Weather Bureau of the United States Department of Agriculture.

The most important line is the 20°F one. In general it marks the limit of commercial winter wheat production in the open country. If sufficient snow cover is available wheat can winter over in temperatures as low as 10°F mean. To provide snow cover on the plains north of the 20° line is the real problem. Wheat must be drilled into either standing corn or tall stubble. This precludes the planting of winter wheat on fallow ground and as a result winter wheat must follow another moisture-depleting crop. In dry years there will not be sufficient late August and early September moisture to give the winter wheat the start it must have if it is to survive.

The 25°F line runs southeast from Conrad, Mont., to Canton, S. D., and thence east and a little north to La Crosse, Wis. Between the 20° and 25° lines winter wheat is quite successful if a hardy variety such as Minturki or the new Marmin is planted. Turkey types from farther south are uncertain in this belt. On the warmer side of the 25° line Turkey wheats are usually hardy and yield well. In many of the mountain valleys and out into the Judith Basin of Montana the mean winter temperature is about the same as central Nebraska. And as a result winter wheats are replacing spring in such mild regions.

It must be remembered that these lines are not rigid, they are but averages of temperatures which may in any one year run five degrees higher or lower. For this reason winter wheats have at times come thru in adverse localities like Pembina, N. D., which appears to have about the lowest mean winter temperature of any point in the United States. And conversely at times there is severe winter-killing south of the 20° line.

It does not appear likely that in the near future a new variety of winter wheat will appear which is more resistant to low temperatures than the Minturki. Work is being carried on with wheat-rye hybrids in the hope of increasing hardiness, but as yet the results seem negative. Selection within existing varieties for winter-hardiness does not offer much promise.

It is possible that we are in a period of rising temperatures and the winter wheat boundary is moving north for this reason. Support is given this theory by weather records.

In summary it does not appear likely that any great increase in winter wheat may be expected in the near future in the area having mean winter temperature below 20° F. It is inadvisable to push such a crop in this area as the odds are against it except under exceptional conditions.

*Circular 33, N.D. Agric. College, Fargo.

Preston Co-operative Grain Co.'s concrete elevator at Preston, Kan., has capacity for 80,000 bus.

80,000 Bus. Preston, Kan., Concrete Elevator

The Preston Cooperative Grain Co., at Preston, Pratt County, Kan., operates a new 80,000 bu. reinforced concrete elevator designed and built for it by Chalmers & Borton.

The elevator is 112 ft. high and occupies a 32x40 ft. area on the ground. It consists of four tanks, 13 ft. in diameter, standing at the corners of the ground area like huge pillars to support the bin structure between them.

The driveway, which is 12 ft. wide, 15 ft. high, and 32 ft. long, passes between the tanks, and is joined by a cross workfloor that opens under the carloading spout on the track side of the elevator. Over the driveway and the workfloor is a series of 12 inner and outer space bins, which, combined with the four tanks, give the elevator storage capacity for 80,000 bus.

The elevator has one leg, with capacity for elevating 3,500 bus. per hour. It is fitted with 12x5 inch Calumet cups, and is driven by a 20 h.p. Fairbanks-Morse inclosed motor thru an Ehrsam head drive. Both head and boot bearings are of the modern anti-friction type that cuts power costs.

Exposed parts of the leg casing are of sheet steel, as is also the head. Wind trunking connects the up and down legs just above the boot. Wind trunking also connects the leg with the receiving pit in the driveway. An exhaust fan connects with the top of the leg casing to create an efficient dust collecting system that frees the driveway, the work-floor, and the bin floor from dust.

A turn-head type distributor of Ehrsam manufacture directs elevated grain thru sheet-steel spouts into any of the bins or tanks, or thru a 10 bu. Richardson automatic shipping scale into the loading spout.

All bins and tanks have hoppered bottoms from which their contents drain into the boot of the elevating leg. Spouts are also provided on several of the overhead bins for loading trucks in the driveway.

The elevator driveway has a single receiving pit, covered with a wide steel grate. Truckloads of bulk grain are emptied into this pit by means of an Ehrsam overhead traveling truck lift. An electric manlift of the same manufacture travels up thru the leg well for quick passage between the workfloor and the bin floor.

The new elevator markedly increased the grain storage and handling facilities of the Preston Cooperative Grain Co., which is managed by L. J. Kirkwood, and has its head office at Preston, where former facilities consisted of a 25,000 bu. frame iron-clad elevator. The company also operates an elevator at Carmi, a few miles from Preston.

While small grains, principally wheat, constitute the major portion of the company's business, a number of sidelines are handled to present a broad service to its farmer patrons.

A One Man Car Unloader

For his invention of a grain car unloader letters patent No. 2,219,926 have been granted to Christian Jensen of Minneapolis, Minn., assignor to Cargill, Inc.

In the drawings Fig. 1 shows a sectional plan view of a box car with the car unloader positioned therein.

Fig. 2 is a sectional view substantially on the line 2—2 of Fig. 1, showing in full and dotted lines various positions of the side or wing conveyors.

Fig. 7 is a detail sectional view showing one end of the supporting frame.

Fig. 12 is a detail sectional view.

Fig. 14 is a detail sectional view on the line 14—14 of Fig. 2, showing one of the bevel gear drives provided for the wing conveyors.

Fig. 15 is a detail sectional view on the line 15—15 of Fig. 2 on an enlarged scale showing one of the telescopic shafts for driving the wing conveyors.

A wheeled frame has a plurality of conveyor sections mounted thereon and operatively associated with one another, whereby when the apparatus is moved into a car, said conveyor sections may be extended into the ends of the car, so as to remove all of the grain therefrom and discharge it from the car thru its open door, and an operator's station being located exteriorly of the car, whereby a single operator may conveniently control the operation of the entire apparatus.

Other objects of the invention reside in the novel construction of the apparatus, whereby the transversely disposed side or wing conveyor may readily be extended to the ends of the car to remove substantially all of the grain therefrom; in the pivotal construction of the wing conveyors whereby they may be folded into nested position on the main frame of the apparatus, thereby to permit the entire apparatus to readily pass through the open door of a box car; in the means provided for supporting the unloading apparatus, whereby it does not require anchoring to a building, and whereby the entire apparatus is self contained, and may readily be moved about from place to place; in the unique construction of the side or wing conveyors which convey the grain from the ends of the car to the main conveyor, said wing conveyors being made sectional or articulated, whereby they may be folded upon themselves, when initially started, and when the car is substantially full of grain, said articulated side conveyors being so constructed that they may readily be unfolded and extended into the ends of the car, while in operation; in the simple and inexpensive construction of the entire apparatus; and in the arrangement of the control means whereby a single operator may readily control the operation of the entire apparatus, when unloading the contents of a car.

The wing conveyors operate continually regardless of whether they are folded into compact nested relation, as shown at A in Figure 2, or whether in the positions shown at D, B or C in Figure 2. When all of the grain has been removed from the car, the wing conveyors are folded into upright parallel relation substantially as shown at A in Figure 2, whereby the operator may readily propel the apparatus from the car by manipulation of the controls of the motor 49. Also, because of the unique construction of the wing conveyors, whereby they may be operated regardless of their folded positions, when the apparatus is initially moved into the car, the main conveyor and the upright wing conveyors will engage the grain and move it into the main conveyor so that it may be truly said that the apparatus actually "eats" its way into the grain in the loaded car, after it is moved forwardly thereinto. This is important and economizes in labor in that it does not require that a portion of the contents of the car be initially manually removed therefrom in order to make room in the loaded car for the apparatus, which is more or less common in conventional car unloading apparatus. The apparatus thus requires a minimum of labor and greatly facilitates and simplifies the operation of unloading cars.

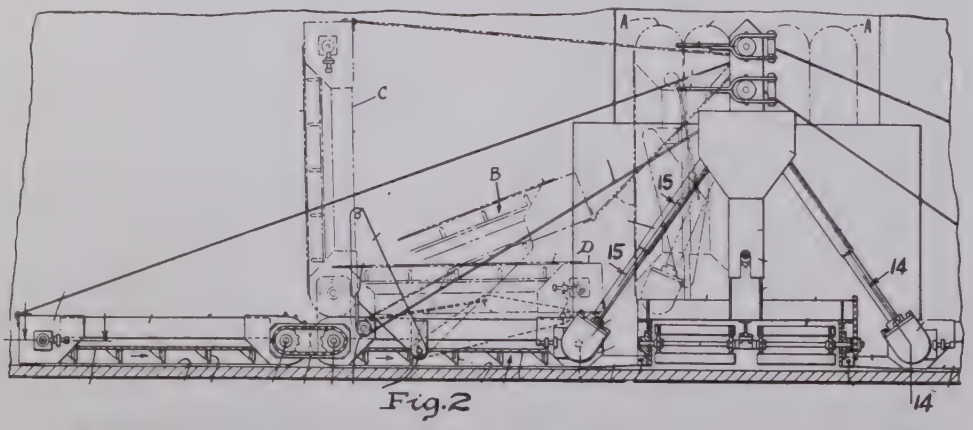


Fig. 2

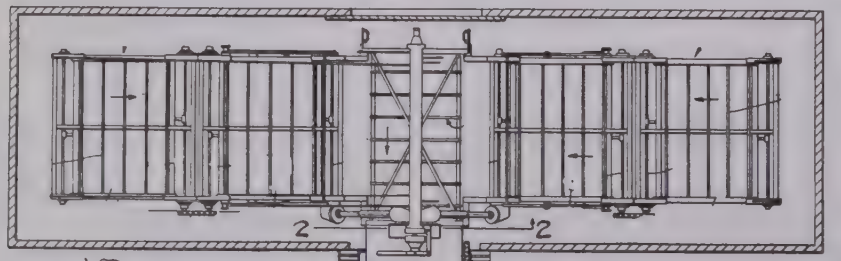


Fig. 1

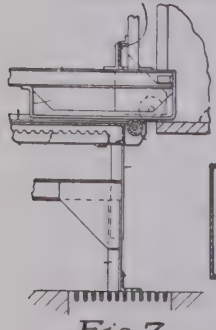


Fig. 7

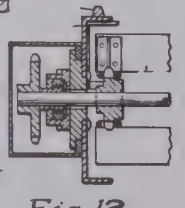


Fig. 12

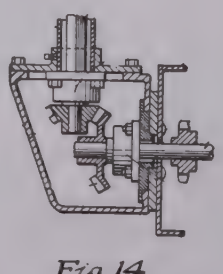


Fig. 14


Fig. 15

Cross Section, Plan and Details of Car Unloader

Supply Trade

Chicago, Ill.—The Zeleny Thermometer Co. announces the removal of its offices and factory Jan. 15 to 9 So. Clinton St.

Schenectady, N. Y.—Fred R. Davis, a founder of the Audit Bureau of Circulations and advertising space buyer for the General Electric Co. at Schenectady for 35 years, died Dec. 26 after an illness of two years. He was 64 years old.

General Electric Co. uses a series of 12 attractive lithographs illustrating the age of electricity, and promising "the electrical age has only begun." The paintings used cover a broad range of electrical subjects, from industry to battleships, to diesel locomotives and electrical home appliances, including fluorescent lighting. The 12 sheets of the calendar show the preceeding and succeeding months as well as the current month.

Washington, D. C.—The Wire Rope & Strand Manufactures Ass'n, Inc., three of its officers, and 16 member companies manufacturing about 95% of the country's production of wire rope, have been charged with unlawful agreement, combination and conspiracy to eliminate competition, in a complaint issued by the Federal Trade Commission. The complaint alleges the respondent association members, acting between and among themselves, or thru the association or its three respondent officers, have fixed and maintained uniform delivered prices, terms and conditions for the sale of wire rope in the United States; continued, in effect, by agreement and concerted action a uniform delivered price-fixing formula adopted at the time of their N.I.R.A. code, and have maintained a uniform method of computing net delivered prices for wire rope sold by them thruout the country. In order to carry out the agreements and the acts and practices performed thereunder, the respondents, according to the complaint, held meetings, supervised and investigated the fulfillment and enforcement of the agreements, and coercively required recalcitrant manufacturers, distributors and dealers to conform to the agreements.

Prepare to Pay Taxes

Federal income tax changes have broadened the range of application of this tax to both individuals and corporations in a manner that affects many elevator operators and their staffs.

Single individuals, or married individuals living separately, are now required to file returns if they have a gross income of $800 or more; married individuals, living together, must file returns on a combined gross income of $2,000 or more. Personal exemptions for individuals allow $800 of net income; for married persons, $2,000 net income.

The first Revenue Act of 1940 increased the normal rate of corporation federal income tax from 12½% to 13½%, and set up a defense tax of 10% of this rate, bringing the normal tax rate to 14.85% for corporations with net income not exceeding $5,000. The second Revenue Act added an excess profits tax of 25% on incomes in excess of $5,000, but provides for credits up to $20,000. The general rule gives the corporation $5,000 of specific exemption, plus 8% of the invested capital, or 95% of the average net profit for the last four years, including the 1940 tax year.

Grain and Feed Trade News

Reports of new elevators, feed mills, improvements; changes in firms; fires, casualties, accidents and deaths are solicited.

CANADA

Vancouver, B. C.—John P. Macaluso has been elected president of the Vancouver Grain Exporters Ass'n. M. W. Berridge is vice pres., Vernon Lester, treas., and J. H. Hamilton, sec'y.

Ft. William, Ont.—Trade Minister MacKinnon will announce Canada's 1941 wheat policy in parliament possibly late in February or early March, it is said. Mr. MacKinnon has told farmers all stocks will be moved from the farms by the end of of the current crop year, July 31, 1941. It will be taken over by the wheat board. The federal government may finance construction of farm storage bins while elevator interests plan the building of additional storage space at Fort William and Port Arthur.

ILLINOIS

Belleville, Ill.—Edward Huelbig, 85-year-old retired grain dealer, died at his home Dec. 16.

Hudson, Ill.—The Hudson Grain Co. has equipped its elevator with a new Atlas Bucket Belt and Calumet Cups.

Jerseyville, Ill.—Jersey Co. Grain Co. installed a No. 15½-D Kelly Duplex Corn Cutter and Grader with motor drive.

Cadwell, Ill.—Donald Harrison of Clay County is the new manager of the Moultrie Grain Ass'n elevator, assuming his duties Jan. 4.

Lockport, Ill.—The Jones Elevators have closed since last summer, due to the fact that we were unable to get C.C.C. corn to store.—H. Hayes Alexander.

East Peoria, Ill.—George H. Stingel, Sr., superintendent of the East Peoria Elevator, who died July 22 of a heart attack, has been succeeded at the elevator by John Wentzel.

Wyoming, Ill.—The Wyoming Feed Mill, building, ground and equipment, was sold at public auction Dec. 21. Paul J. Steimle has been operating the mill. Amos Stahl, Princeville, was the purchaser.

Morris, Ill.—Fred Watts, Sr., of Havana, Ill., is manager of the old Finnegan grain elevator recently leased by the Norris Grain Co. Mr. Watts has been manager of the company's elevator at Havana for some time.

Havana, Ill.—Fred Watts, Jr., has become manager of the Norris Grain Co. elevator here following the departure of his father for Morris, Ill., to take charge of an elevator the Norris company recently leased there.

Prophetstown, Ill.—The Rock River Lumber & Grain Co. held its first series of feed meetings here Dec. 30. Farmers of the community were invited to attend and following the program of instructive talks, an oyster supper was served. Similar meetings will be held thruout the winter in the company's three headquarters, here, at Lyndon and Yorktown.

East St. Louis, Ill.—Pneumatic grain loading facilities are being installed at the Continental Grain Co. elevator. To traverse railroad tracks and city streets this pneumatic loading device is carried in a steel bridge structure 670 ft. long to reach the barge loading facilities at the river. It will have a loading capacity of 7,500 bus. per hour, and is expected to be in operation this week.

Champaign, Ill.—Annual processing capacity of the Swift & Co. soybean mill recently was increased from 1,200,000 bus. of beans to nearly 2,000,000 bus. Nelson P. Noble, manager of the mill, stated three additional presses have been installed and 17 new storage bins added, construction of which was started several months ago. The plant now has a total of 41 storage bins. Twenty-six bins are 106 ft. high and 24 ft. in diameter, with a storage capacity of 35,000 bus. of beans each. The remaining 15 are of smaller capacity.

Newark, Ill.—The Newark Farmers Grain Co. recently installed a new 15-inch 5-ply Atlas Rubber Covered Bucket belt.

Metropolis, Ill.—The Massac Grain Co. is installing a new leg with 8,000 bus. per hour capacity, constructed to serve the four tanks now in use. A head house will be built, topping the tanks, to be 24 ft. sq., and 20 ft. high. Early in the coming spring, probably in March, an addition of eight tanks will be built, the tanks to be 110 ft. high and 24 ft. in diameter. The present tanks are 50 ft. high, with 16 ft. diameter. The head house on top of the new tanks will be about 70 ft. above them, making a total height of about 200 ft. A new sheller has been purchased for use in the new elevator.

East Peoria, Ill.—The East Peoria Elvtr. Co. has filed suit in the circuit court against T. E. Soltermann, county clerk, and William Schneidekat, county collector, to restrain extension and collection of personal property taxes assessed against the company by the Tazewell County board of review. The personal property of the company was not assessed by the Fondulac township assessor but the board of review placed an assessment of $10,000 on personal property against the company. The company in its complaint alleges its main offices are located in Peoria and that its personal property has always been assessed in Peoria County. Last year the board of review placed an assessment of $30,000 against the company and the company filed a suit similar to the one now filed. Following trying of the suit in court, the county officials were restrained from extending or attempting to collect last year's taxes.

CHICAGO NOTES

J. J. O'Brien will become general partner in Wayne, Hummer & Co.

L. B. Leavitt and B. C. Luce are retiring from partnership in the firm of Paine, Webber & Co.

Frank L. Van Wie has announced his retirement from partnership in the firm of Jas. H. Oliphant.

Arthur A. Clement has announced he will retire from partnership in the firm of Clement, Curtis & Co.

Edward L. Hicks, Jr., Theodore H. Price, Jr., and Albert Fischer are retiring as partners in Lamson Bros. & Co.

The Chicago Chapter, Society of Grain Elevator Superintendents, will hold its annual Ladies' Night at the Redwoods Inn, Jan. 16.

Edward Shearson will withdraw as partner in the firm of Shearson, Hammill & Co., and Walter Maynard, R. W. Atkins and A. E. Thurber will become general partners.

Joseph E. Nelson has been appointed manager of the animal by-products department of Armour & Co. In recent years he had been in charge of the feed sales activities of the department.

Simon J. Feeney, 61, a member of the Chicago Board of Trade for 35 years and of the brokerage firm of S. J. Feeney & Co. for 30 years, was found dead in bed the morning of Dec. 28. Death was due to a heart attack.

Arthur J. Pollak, for many years a member of the Chicago Board of Trade with extensive experience in all branches of the cash grain business, has been admitted as general partner in the old established firm of A. C. Curry, Grain & Seeds as announced by J. "Cliff" Curry.

The engine room of the Norris Grain Co.'s elevator at 98th St. and the Calumet River was swept by fire Jan. 4, causing an estimated damage of $10,000. The engine room is in a two-story brick structure about 20 ft. distant from the storage bin in which 1½ million bushels of grain are stored. Fire engines extinguished the flames with water drawn from the river.

A decline of $25 to previous low of $450 was recorded in the price at which memberships in the Chicago Board of Trade were transferred the closing week of December. Posted offers of certificates were at $450, while highest bid at that week end was $400.

Chicago Board of Trade members' annual dues and assessments will be $100 less in 1941 than they were last year, directors of the exchange have announced. Annual dues were fixed at $300 instead of $250 and the special assessment of $150 was removed. The recent reduction of interest rates for 1941 on first mortgage bonds granted by the Northwestern Mutual Life Ins. Co., holders of the bonds, resulting in a saving of $85,000 in interest charges was said to have made the change possible.

John G. McCarthy, who expected to retire from the presidency of the Board of Trade which he held for two years, and Chester D. Sturtevant were nominated Jan. 6 for reelection by petition to oppose Philip R. O'Brien and G. Willard Hales, regular candidates selected by the nominating com'ite recently for the positions of president and first vice-president. Hales then withdrew from the race and the nominating com'ite met Tuesday to select another candidate for first vice president. The election will be held Jan. 13. Mr. McCarthy immediately filed notice of withdrawal from candidacy.

INDIANA

Camden, Ind.—The Soy Seed Co. has built a new addition to its office, which provides for a private office.—A.E.L.

Edgerton, Ind.—The Edgerton Grain & Coal Co. recently installed a new style Sidney Revolving Screen Cleaner.

Boggstown, Ind.—Boggstown Grain & Supply Co. installed a No. 2 Kelly Duplex Vertical Feed Mixer, ton capacity with motor drive.

Vincennes, Ind.—Oris H. Wright of the Baltic Mills underwent an operation Dec. 18 in an Indianapolis hospital for gall bladder trouble.

Mt. Vernon, Ind.—Clinton C. Stroud, 72 years old, retired grain buyer and feed and seed merchant, died here recently after a short illness. —W. B. C.

Indianapolis, Ind.—The Home Elvtr. Co. has been reorganized under the Indiana general corporation act of 1929. Capital stock, 1,000 shares, par value, $50.

New Paris, Ind.—The remodeling of Martin's Feed Mills has been completed, consisting of an entirely new and enlarged cupola, new corn cleaner, corn leg, and driveway dump and drag. Chris Wickey did the work.—A.E.L.

Hoagland, Ind.—The Farmers Co-operative Co. built a new corn crib equipped with elevator leg, together with a new dump and drag in driveway. The old revolving screen cleaner was replaced with a new one.—A.E.L.

Woodburn, Ind.—Woodburn Equity Exchange added some new equipment recently, a combined sheller and boot with drive, elevator, and new style revolving corn cleaner and drag, all furnished by the Sidney Grain Machry. Co.

Whitesville (Crawfordsville R. F. D. 2), Ind. —The Whitesville Grain & Feed Co. is installing a large Big Chief Hammer Mill in the basement, with dump attached on separate motors. Equipment was furnished by W. W. Pearson.

Weishaars (Brook R. F. D.), Ind.—The Standard Elvtr. Co.'s elevator has been sold to W. W. Pearson and will be razed. Some of the material will be used by Guy Little in building bins and erecting a stone crusher at Remington, Ind.

Sycamore, Ind.—C. C. Currens of Greentown purchased the elevator of Howard Cranor and will operate under the firm name of C. C. Currens & Son. Mr. Currens has added a new feed mixer and plans to make further improvements later—A.E.L.

Eddy (Wolcotville p. o.), Ind.—The feed mill owned by Harvey Stout and son was destroyed by fire of undetermined origin the night of Dec. 22. The building and contents were partly covered by insurance.

Horton, Ind.—The Hamilton County Farm Bureau Elevator has been completely remodeled in the feed mill section, with a new 50 h.p. hammer mill, new feed mixer, new truck hoist and new 20-ton truck scale among the many improvements.—A.E.L.

Delphi, Ind.—Whiteman Bros. have completed remodeling their feed plant and installed an extra motor on the sheller, using the large motor for the mill and separate motor on the elevator. Equipment was furnished by W. W. Pearson who made the installations.

New Lisbon, Ind.—The elevator of Kellam & Son was destroyed by fire Jan. 1, the blaze starting in the top of the elevator. The elevator, a land mark 43 years, has been operated by Eugene Kellam and his son for the last five years. It contained 200 bus. of oats and 400 bus. of corn, which were lost. There was partial insurance.

Crawfordsville, Ind.—William Wallace Busenbark, 80, prominent grain and feed dealer at Montgomery, near here, for many years, is dead at his home at New Market, seven miles south of this city. He had been in failing health for the past year. Mr. Busenbark was long engaged in the grain elevator and feed business, having a number of elevators in this vicinity. —W. B. C.

Winchester, Ind.—Percy Goodrich, president of Goodrich Bros. Co., writing under the nom-de-plume of "Uncle Perc," contributed an open letter declaring his faith in the existence of that time-revered personage, Santa, to children old and young, that appeared in the holiday issue of his home town paper and marked him as an author of no mean ability and discernment. "Uncle Perc," recounting the many blessings and privileges we enjoy, taken for granted by men, women and children, declared emphatically "there is always a Santa Claus where something good is done for little boys and girls."

IOWA

Riverton, Ia.—A new scale has been installed at the Riverton Co-op. Elevator.

Exira, Ia.—We are putting in new elevator belting and cups.—Exira Elevator.

Greene, Ia.—Bert Pooley has equipped his elevator with a new Atlas bucket belt.

Polk City, Ia.—The Polk City Grain Co. has bought out its competitor, the Polk City Lumber & Elevator Co.

Everly, Ia.—A new driveway and an office building were built for the Farmers Elvtr. Co. by the T. E. Ibberson Co.

Calamus, Ia.—The Farmers Elevator Co. recently placed an order with R. R. Howell Co. for a large motor driven Clipper grain and seed cleaner.

Downey, Ia.—Marvin Butler, who has been in the employ of the Wilder Grain Co. the past two years, is new manager of the company's local elevator.

Perry, Ia.—The Stokely Lumber Co. recently repaired and remodeled its elevators at Perry, Dawson and Darwin. The T. E. Ibberson Co. had the contract.

Centerville, Ia.—Michael Stiverson, 39, copartner with Harry Schultz in the operation of the Standard Soybean Mill, died Dec. 7, following an illness of 30 days.

Sac City, Ia.—W. Walter Cooper, 70, died Dec. 23. In 1919 he became manager of the Independent Farmers Elevator Co. and continued in the grain business till 1934.

Mt. Pleasant, Ia.—The A. D. Hayes Co. elevator was broken into over the holidays week end, a cash drawer in the feed department was searched, but no money was obtained.

Cumming, Ia.—Steve Hoelting, manager of the Des Moines Elevator Co., recently was struck by a truck and died as a result of the injuries. Joe Kelley has been appointed to succeed him.

Middletown, Ia.—The Middletown Co-op. Elevator Co. elevator was broken into the night of Dec. 30 and a door of the safe was jimmied, but no loot was obtained. Entrance to the building was gained by breaking a window.

Hampton, Ia.—Wm. H. Harrison, 75, manager of the Great Western Grain & Fuel Elevator here for the past 10 years, has resigned and sold his interest in the company. He will be succeeded by Paul K. Wolfe.

Sioux City, Ia.—The name of the J. J. Mullaney & Son Co., has been changed to J. J. Mullaney Co. The corporation has made no changes and the officers remain A. P. Meyers, pres. and treas.; J. J. Brady, vice-pres.; John T. Ashford, sec'y.

Dougherty, Ia.—The Tyden Farms & Feed Manufacturing Plant is installing modern equipment for manufacturing protein feeds into pellets for all types of live stock, poultry and turkey feeds. A high pressure, steam heating unit, automatically controlled, has been installed.

Des Moines, Ia.—Approximately 40 grain and feed men of the city met for a dinner and stag party in the cabin room of the Hotel Fort Des Moines, Dec. 28. Tom Dwyer, Walter Berger, C. M. Stormes, F. H. Kelley and Rudolph Opsal were among the promoters of the party.

Anamosa, Ia.—E. H. Huibregtse's new feed mill will be ready for business about Feb. 1. The mill will have a 30 x 31 ft. driveway and office; a 24 x 60 ft. feed house, and a 20 x 31 ft. elevator. All bins will be of hopper-bottomed construction. Air lift dumps will be installed along with other modern equipment. Burrel Fagen of the Monticello Feed Mill will be in charge of the new mill.

KANSAS

Arkansas City, Kan.—The Arkansas City Flour Mills Co. report an electrical breakdown loss occurring on Dec. 5.

Brewster, Kan.—The Derby Grain Co. has installed a 25-ton Fairbanks Truck Scale with printograph. The scale deck is 9x34 feet. Glenn Root, mgr.

Lawrence, Kan.—The rapid growth of the Derby Grain Co.'s feed business has required the installation of an improved molasses mixer. T. L. Smart, mgr.

Dodge City, Kan.—The Dodge City Co-operative Exchange has let a contract for construction of a 250,000-bu. elevator here. There will be six tanks and a head house.

Oxford, Kan.—Bob Nelson recently resigned as manager of the Consolidated Flour Mills Elevator to join the National Guard. Ira Rankin, formerly of Belpre, has succeeded him at the elevator.

Fowler, Kan.—The Fowler Equity Exchange has been remodeling its building and installing machinery for its new feed mill. The mill is being equipped to do all kinds of grinding and mixing, either with molasses or the dry feed.

Dillwyn (Macksville p.o.), Kan.—The Dillwyn Grain & Elvtr. Co. is planning to enlarge its elevator by building additional storage space for 90,000 bus. A. E. Hager is manager of the 75,000-bu. elevator, which was built only two years ago.

Varner, Kan.—John W. Wheeler, 76, died at his home Nov. 29. Mr. Wheeler had operated the Varner elevator for about fifteen years and had lived in the community 23 years. Prior to that he had been in business at Pretty Prairie and Burdett.

Winfield, Kan.—The managers and board members of the Farmers Union elevators of Cowley County met recently at the Lagonda Hotel for their winter meeting and an informal program. Talks were made by representative men of the grain trade and lunch was served at noon.

Hutchinson, Kan.—Under a recent ruling of the probate court Mrs. Faye Collingwood, widow of the late L. P. Collingwood, will receive half of the estimated $500,000 estate left by her husband, and the daughters divide the other half. The estate consists of a large terminal elevator and numerous line houses in western Kansas,. stocks and thousands of acres of land, nearly all of which was left to the deceased's brother, Fred Collingwood, by terms of the will which Mrs. Collingwood successfully contested.

Salina, Kan.—Ralph Vestal, manager of the Salina office of B. C. Christopher & Co. for about 15 years, and associated with local grain trade for 25 years, was fatally injured Dec. 30 when his automobile crashed head-on six miles east of here, with the car of James I. Wall, a truck driver, who was killed. Mr. Vestal suffered concussion of the brain, a possible skull fracture, a compound fracture of the right arm below the elbow, and severe lacerations. He never regained consciousness. Mr. Vestal resided in Solomon, Kan., and was enroute to his office when the crash occurred.

Salina, Kan.—Additional storage for 1,000,000 bus. is to be erected here for Shellabarger Terminal Elvtr. Co. Contracts for the addition to the present house have been awarded and construction will start at once, the structure to be completed before the start of the crop movement in Kansas and the Southwest. The elevator addition will include 24 bins, 22 ft. in diameter, and about 105 ft. high, with 14 interstice bins. It will give the company a total capacity of 2,000,000 bus. No new head house equipment will be necessary, the original house having been erected with sufficient capacity to handle an aggregate of 3,000,000 bus. of grain storage. Elmer W. Reed, vice-pres. and general manager of the Shellabarger Mill & Elvtr. Co., is also the head of the Shellabarger Terminal Elvtr. Co., an associated business. Horner and Wyatt have contracts for the engineering work.

Dodge City, Kan.—The proposed property tax to be submitted as substitute for the present tax bill, and approved by the Kansas Grain, Feed & Seed Dealers Ass'n, provides as follows: (a) From and after the second day of March, 1941, for the privilege of engaging in the business of a dealer in grain in this state, there is hereby levied and there shall be collected and paid a tax at the rate of one-half mill per bushel upon all grain received by a dealer in this state during the preceding calendar year, whether such grain is owned by such dealer or not. Said tax shall be in lieu of all general property tax upon grain. (b) From and after the second day of March, 1941, for the privilege of harvesting grain in the state there is hereby levied and there shall be collected and paid by the producer a tax at the rate of one-half mill per bushel upon all grain harvested in this state; provided, that in the case of a sharecropper, the landlord and the tenant shall each pay their proportionate share of the tax, and where the land is rented on a cash basis, the tenant shall pay the full tax; and provided further that each producer shall pay only one tax upon the bushel basis for the grain harvested by him. Said tax shall be in lieu of all general property tax upon such grain.

KENTUCKY

Middlesboro, Ky.—Fire in a bale of cotton sacks at the Middlesboro Milling Co. plant on December 22 caused a small amount of damage.

Bowling Green, Ky.—The grain elevator of the bankrupt Bowling Green Milling Co., was damaged by fire Dec. 24, the blaze believed to have started in an electric switch box on the first floor. About 2,500 bus. of wheat was damaged, mostly by water. The elevator, operated by an electric motor, was being used in turning wheat when the fire was discovered.

Middlesboro, Ky.—Fire early December 21 damaged the feed and seed store of Tom Ed Stone.

Leitchfield, Ky.—Tilford Haycraft, local feed dealer, was injured in a fall down a stairwell at his new home recently. The injuries, while painful, were not serious.

MARYLAND

Hagerstown, Md.—Farm Bureau Co-op have added some new machinery including an Ajax hammermill complete with motor, crusher, and ton Kwik-Mix mixer, which they bought from the Sidney Grain Machry. Co.

MICHIGAN

Remus, Mich.—D. Mansfield & Co. plant was damaged by recent high winds.

Linden, Mich.—J. C. Wallace reported his property damaged by recent high winds.

Barryton, Mich.—The Barryton Co-op Ass'n reported its plant was damaged recently by high winds.

Jeddo, Mich.—The Farmers Elvtr. Co. sustained a small loss recently when high winds damaged its plant.

Midland, Mich.—The Michigan Bean Co. on Nov. 11 sustained a small loss at its plant because of high winds.

St. Charles, Mich.—The Farmers Co-op. Co. sustained considerable damage at its plant during the Nov. 11 windstorm.

Richland, Mich.—The Knappen Co. recently installed a new 80-bu. Sidney Vertical Mixer with motor and v belt drive.

Fowler, Mich.—Davarn Elvtr. Co. installed a No. 56½-D Kelly Duplex Corn Cutter and Grader with 3 h. p. motor drive.

Traverse City, Mich.—Charles G. Sherwood, 75, manager of Hannah & Lay Co. mill until it burned 15 years ago, died recently.

Gaines, Mich.—Mrs. Elsie Frutchey reported the Frutchey Elevator was damaged by high winds on Nov. 11. The loss, however, was small.

Hastings, Mich.—Albert Harney turned over the management of the Smith Bros. Velte Co. to Arthur Todd of Coats Grove Jan. 1 after 32 years' service with the company and will retire from the company's employ. He expects to take a vacation before deciding upon future plans.

Sawyer, Mich.—Vern Kegel, owner of the Sawyer Farmers Exchange, received minor injuries when a tool accidently dropped from the roof of the building and struck him. The Exchange building is being repaired following heavy damages incurred in the Armistice Day windstorm.

Reese, Mich.—The Reese Farmers Co-operative Elvtr. Co. has installed a Eureka Belt Picker and two additional Giant Pickers in the Kern Elevator. This equipment is driven by a 7½-h.p. fully enclosed motor. A 3-h.p. fully enclosed motor has also been installed to drive four elevator legs.

Edwardsburg, Mich.—J. M. Wendt, manager of the Wendt Grain Co., has purchased of the Merchants National Bank of Battle Creek the local grain elevator property and equipment for which the bank has acted as receiver. The warehouse, which recently was destroyed by fire, will be rebuilt and other improvements made.

MINNESOTA

Rockville, Minn.—The Rockville elevator is being dismantled.

Pipestone, Minn.—Burglars visited the B. F. Veach & Son elevator recently, but obtained little loot.

Erdahl, Minn.—The Monarch Elvtr. Co.'s elevator and its contents of grain burned Dec. 28 with a total loss.

Minneota, Minn.—The Farmers Elvtr. Co. had the T. E. Ibberson Co. iron-clad its elevator, warehouse, and office.

Winger, Minn.—The Farmers Co-operative Co. sustained considerable damage at its plant from high winds on Nov. 11.

New Ulm, Minn.—A dust explosion which did small damage is reported to have occurred in the Eagle Roller Mill on Nov. 16.

Lake City, Minn.—Tennant & Hoyt Co. recently completed remodeling its office.

Chatfield, Minn.—Clarence V. Ferguson, 87, early day grain buyer for the Van Dusen Grain Co. at Rochester, died Dec. 22.

Gully, Minn.—The Farmers Elvtr. Co. has installed a 1,000 lb. motor driven batch feed mixer, purchased from R. R. Howell Co.

Wilmont, Minn.—Oscar Young, 60, for 30 years manager of the Greig elevator plant here, died suddenly Dec. 17 of a heart attack.

St. Charles, Minn.—Fire recently damaged the interior of an addition to the Commander elevator here. Vaughn DeMarce is elevator manager.

Beaver Creek, Minn.—The Beaver Creek Elvtr. Co. has been reorganized as a co-operative organization, to be known as the Beaver Creek Co-operative Elvtr. Co.

Lakeville, Minn.—The Soybean Mills, Inc., has been organized to grow, sell and process soybeans. Incorporators: Riley W. Lewis, Jessie R. Lewis and Otto A. Schenstedt.

Nassau, Minn.—The Nassau Farmers Elvtr. Co. sustained a small property damage on Nov. 30, caused by a customer's truck. The plant also was damaged by high winds in November.

Annandale, Minn.—A new 20-ton, 26 ft. Fairbanks scale with Strong-Scott Air Dumps was installed for the Farmers Elvtr. Co., and other improvements were made. The T. E. Ibberson Co. did the work.

Anoka, Minn.—George A. McCauley, 79, for 55 years in the grain, feed, fuel and farm machinery business here, died Dec. 23. Mr. McCauley also served four terms as mayor. In his memory all places of business were closed on the day of his interment.

Alberta, Minn.—A 40,000-bu., six bin annex was built here for Cargill, Inc. This sets adjacent to the company's present plant, which consisted of two elevators; a large, new office and a warehouse was provided. The T. E. Ibberson Co. had the contract.

Renville, Minn.—Reports from all active com'ites high-lighted the regular monthly meeting of the Western Grainmen's Ass'n held here Dec. 17. Oscar Olson, president, reported all five of Minnesota's ass'ns are collaborating on legislative measures and that meetings had been held toward this end. Storage charges, thresher's lien law, scale testing were probed. John Evans, reporting for another com'ite, stated the country elevator men were opposed to the proposed changes in the rye and oats standards. One reason given was that it would require many more bins to keep various grades separated. Instead of changing the grades, it was recommended a change in the requirements of the present grades be made. Storage charges on grain which had been delivered to a country elevator and on which a loan had been made but which later had been paid up and released was clarified by an explanation received by the C. C. C. and given reading before the meeting. John Whaley, supervisor of state public warehouses, answered questions relating to shipment of stored grain; rates of storage at terminal and country points, storage bonds. A motion picture was viewed following the business meeting, showing preparation of hybrid seed corn.

Claremont, Minn.—Dwight Morford of Owatonna is the new manager of the local elevator, succeeding James R. Edmond, resigned.

Mountain Lake, Minn.—Among extensive remodeling operations for the Co-op Farmers Elvtr. Co., new Howell Head Drives were installed, and the old spouting systems replaced with Howell Distributors. All legs were equipped with Calumet Cups, and all shaft bearings are modern anti-friction pillow blocks.

DULUTH LETTER

An active demand for screenings has started a rail run of supplies out of this market for various points in the central states territory.—F. G. C.

During the 1940 navigation season Canadian steamers arrived and unloaded 15,274 tons of screenings at docks and sheds at Duluth-Superior for sale and distribution to feeding trade in nearby and central states territory.—F. G. C.

Notice has been posted on the trading floor that the directors of the Duluth Board of Trade as of Dec. 17, 1940, refused all trading privileges to P. S. McMunn until further notice by the sec'y of agriculture under provision of the Commodity Exchange act.—F. G. C.

The Duluth Board of Trade Clearing Ass'n holds its annual election for directors Jan. 7, O. E. Martin and W. R. McCarthy retiring. Two will be elected to fill their places. Present directors are Geo. Barnum Jr., O. E. Martin, W. R. McCarthy, H. W. Wilson, F. B. Mitchell and G. H. Spencer.—F. G. C.

The city of Duluth was bequeathed $3,750 for the maintenance of the Miller Memorial hospital from the estate of Benjamin B. Stockman, prominent Duluth grain man who died Dec. 10, 1939. Mr. Stockman served as a director in the Duluth Board of Trade, vice president and president of the Board in 1919 and 1920.—F. G. C.

Duluth grain men staged a New Year's celebration on the trading floor Dec. 31 and the occasion will long be remembered by those who participated in the festivities. The floor was gaily decorated by the younger members for the dress up, while an orchestra dispensed music for entertainers and dancers. There was the usual noise and merry making, followed by an elaborate lunch at noon. Little business was possible and the trading closed at 12 noon.—F. G. C.

MINNEAPOLIS LETTER

Clarence Larkin, formerly superintendent of the Butler-Welsh Grain Co. elevator at Omaha, is now with Archer-Daniels-Midland Co., Minneapolis.

Minneapolis, Minn.—The Pillsbury Flour Mills Co. has formally opened its new research and experimental laboratory. Under direction of Dr. C. G. Harrel, the staff of scientists at the plant will conduct experiments in chemical, biological and bacteriological fields, as well as in the general field of nutrition.

J. E. Getchell, vice-pres. of the Andrews Grain Co., who is retiring from his company and from the Minneapolis Chamber of Commerce after 44 years in the grain business, was guest of honor at a surprise party Dec. 30, held at the Minneapolis Club. More than 100 grain men were in attendance. Walter Mills, grain department executive for General Mills, Inc., acted as toastmaster and presented Mr. Getchell with a watch, suitably engraved.

Miss Barbara Archer, daughter of Shreve M. Archer, head of the Archer-Daniels-Midland Co., has joined the New York offices of Northwest Airlines.

The American Ass'n of Cereal Chemists, Northwest section, recently elected the following officers for the year 1941: Chairman, Miss Marjorie Howe; vice-chairman, Frank Hildebrand; sec'y, Leslie W. King; treas., Walter W. Tholstrup.

MISSOURI

Archie, Mo.—The Farmers Elvtr. Co. recently installed a Western Pitless Sheller.

St. Louis, Mo.—Some stock in a warehouse of the Saxony Mills was damaged by an exposing fire on Dec. 2.

Corder, Mo.—The Frerking Elevator recently installed a 30-h.p. electric motor which is being used to operate the plant's grinding machinery. It replaces the gasoline engine formerly in use.

St. Joseph, Mo.—A fire at the Schreiber Milling & Grain Co. the morning of Dec. 2, caused by a short circuit in an outside power transformer, damaged an electric motor, causing a loss estimated at $250.

Marshall, Mo.—J. C. Speck, 79, recently resigned his position as superintendent of the Rea & Page Milling Co., a position he held for 51 years, because of ill health. He has been succeeded at the mill by John Hayner.

St. Marys, Mo.—John Mack, 67, colored, was killed instantly Dec. 14 when he fell from the top of the 50-ft. grain elevator of the St. Marys Mill Co. to the concrete pavement below. He had been employed at the mill for 50 years.—P. J. P.

Centralia, Mo.—George Williamson has succeeded H. C. Baur as manager of the Producers Grain Co. Mr. Baur resigned after three years' service in that position, and will make his home in Wellsville, where he recently purchased an elevator.—P. J. P.

St. Louis, Mo.—New officers of the St. Louis Grain Club, recently elected at the annual meeting at Statler Hotel, include Harry Adam, pres.; A. R. Benson, vice-pres; W. B. Christman, re-elected sec'y-treas. Directors named include Robert Dierks, William Geigel, Walker McMillan, Ben M. Schulein and Elmer Schwar.

St. Louis, Mo.—Julius Mayer has been nominated for the presidency of the St. Louis Merchants Exchange. Walter H. Toberman is the nominee for first vice-pres. and C. H. Williamson for 2nd vice-pres. There are no opposing nominees. The nominations therefore are tantamount to election at the annual election Jan. 8.

Carrollton, Mo.—Ray-Carroll County Grain Growers' Ass'n is receiving bids this week for the erection of a 65,000-bu. country elevator, the house to replace the elevator destroyed by fire last spring. It will be of reinforced concrete. Horner & Wyatt prepared the plans for the structure. M. R. Miller is general manager of the ass'n.

Liberal, Mo.—Mrs. Lee Mellor and her son, Glenn, have purchased half interest in the D. F. Aleshire hammer mill. Glenn has been employed at the mill for several weeks, learning the business, and will continue to work there together with Mr. Aleshire. New electric motors recently were installed in the plant, replacing engines formerly used for power.

KANSAS CITY LETTER

The W. J. Small Sales Co. has been formed, a subsidiary of the W. J. Small Co., Inc., to handle sales and distribution of the company's alfalfa meal. The new division of the company will have its headquarters in Kansas City, Kan., with H. A. Dyer in charge of sales and Lloyd M. Faris, his assistant.

The plan of reorganization of Flour Mills of America, Inc., has been confirmed by the court. The company has two subsidiaries, Kansas Flour Mills and Valier & Spies. After running into financial difficulties during the depression, and with losses continuing to mount in following years, the company filed a voluntary petition in bankruptcy under the Chandler bill in federal court here in March, 1939. The plan for reorganization has been previously approved by a majority of the company's creditors and preferred stockholders. A new board of directors has been named by the court. The company's new setup will be retroactive to Sept. 1, 1940.

Faulty operation of a gas heater in the Rodney Milling Co.'s flour warehouse on Dec. 24 caused a small damage loss.

B. F. Tyler, Jr., was chosen president of the Kansas City Hay Dealers Ass'n at the annual election of officers held Jan. 7. R. M. Tyler was elected second vice-pres., and directors chosen for two year terms were L. M. Faris, L. L. Funk and W. L. Gordon.

Roy E. Swenson and J. K. Christopher were the nominees for the office of president of the Kansas City Board of Trade, but Mr. Christopher later announced his withdrawal thus assuring Mr. Swenson's election to that post. John Stark and William B. Young are the nominees for the office of second vice-pres. Gunnard A. Johnson automatically advances from second vice-pres. to first vice-pres. Nominations for the board of directors, six of whom are to be elected, are Fred W. Lake, E. R. Jessen, Charles B. Dreyer, Ed Marshall, W. E. Root, Roy O. McKenna, R. H. Sturtevant, F. J. Fitzpatrick, Elmo F. Merrill, Hearne Christopher, D. C. Bishop and W. D. Farmer. Nominations for the directorate of the clearing house exchange include E. E. Klecan, Paul D. Bartlett, John W. Cain, Frank A. Theis, W. B. Lincoln, J. F. Leahy, W. M. McGreevy and S. B. Gregg. Three directors will be elected for the two-year terms and one for one year. The election will be held Jan. 7.

MONTANA

Lewistown, Mont.—Fire of unknown origin charred the warehouse basement and damaged the Montana Flour Mills plant here recently. George St. Peter is local plant manager.

NEBRASKA

West Point, Neb.—The Norfolk Cereal & Flour Mills Co. report an electrical damage on Dec. 10.

Humboldt, Neb.—The O. A. Cooker Co. reported a small property damage on Dec. 4 caused by a customer's truck.

Omaha, Neb.—Frank L. Guinan has succeeded the late Arvid Anderson as superintendent in charge of the Growell Elevator.

Omaha, Neb.—Earl Mahan has succeeded Clarence Larkin as superintendent of the Butler-Welsh Grain Co. Gateway elevator.

Hartington, Neb.—John Herfkins, owner of the John Herfkins Elevator, was elected president of the Cedar County Agricultural Society recently.

Lincoln Neb.—Fire near the top of a grain bin at the Lincoln Hay & Feed Co. plant early Dec. 30 damaged the building and threatened the plant. The bin was empty. Origin of the fire is unknown.

Omaha Neb.—The Omaha Grain Exchange laboratory again is sponsoring a collaborative baking test by sending out flour samples milled from new wheat varieties to 20 cereal chemists thruout the country.

Nebraska City, Neb.—The Western Elvtr. Co., an associate company of Hart-Bartlett-Sturtevant Grain Co., Kansas City, will let contracts shortly for construction here of a head house of 150,000 bus. capacity. The structure will have facilities for receiving grain by truck and rail, and for shipping via water, truck and rail routes. Horner & Wyatt prepared the specifications and will supervise the construction work.

NEW JERSEY

Elmer, N. J.—Jack Lambert is manager of the Farmers Feed & Grain Co. which opened here recently.

NEW MEXICO

Deming, N. M.—The Deming Oil Mill's new feed mill started operation recently, with H. E. Emery in charge as manager. The mill has a capacity of 10 to 15 tons daily and mixed feed and all kinds of feed stuffs will be produced. Seasonal running of cottonseed cake at the oil mill also is in progress and part of the cake will be produced in pellets in the feed mill to be used for the feeding of range cattle. Mr. Emery, who is also manager of the Deming Oil Mill, contemplates a cattle feeding program, but stated construction of cattle pens at the plant will not begin until later in the season. The feeding program, however, will absorb only a small part of the product of the feed mill.

NEW YORK

Conklin, N. Y.—The feed store operated by G. C. Dean was totally destroyed by fire of unknown origin on Dec. 23.

Binghamton, N. Y.—Effective Jan. 1, 1941, the name of A. O. Dailey & Sons, Inc., was changed to Dailey Mills, Inc.

Syracuse, N. Y.—The New York State Hay & Grain Dealers' Ass'n will hold its midwinter meeting at the Onondaga Hotel, Jan. 23.

Binghamton, N. Y.—Fire of undetermined origin destroyed a Conklin Road feed mill, stock owned by Glenn C. Dean, early Dec. 23. The building, once a creamery, is owned by Crowley's Milk Co.

Buffalo, N. Y.—A. B. Black, after 33 years of active service as vice-pres. of Charles Kennedy & Co., retired Jan. 1. His first connection with the grain trade was in Minneapolis in 1885, where he served in the inspection department. Prior to his entering the grain business in Buffalo, Mr. Black was in the milling business, having been with the Standard Milling Co. as manager of plants in Duluth and Buffalo.—G. E. T.

Delhi, N. Y.—The Delhi Milling Co. plant was destroyed by fire the night of Dec. 18. Cause of the fire was undetermined. Herbert Dawson of Davenport took over the building early in 1940, starting in business as the Delhi Milling Co. with John Mostert as manager. The company will continue to serve their customers and the plant will be rebuilt. Prior to Mr. Dawson's purchase of the plant it had been operated for many years by the late Samuel F. Penfield.

Buffalo, N. Y.—Obsolete and condemned by the city, the Marine B grain elevator, a 60-year-old landmark on Buffalo's waterfront, will be razed shortly. President Harold L. Abell of the Marine Elevator Co. said the location of the Marine B made it impossible to serve other than small boats. It has been idle since 1939, when a Kellogg Grain Co. lease expired. The first 150,000-bu. section of the Marine B was built in 1881. In 1894 a 500-000-bu. addition was erected. The modern Marine A 2,000,000-bu. concrete elevator, built in 1929, is still operating.—G. E. T.

Middletown, N. Y.—Z. K. Greene, oldest active employe of the Corn Producers Sales Co., retired from active service on Jan. 1, ending a career of 57 years in the feed business. Mr. Greene started in 1884 as a traveling salesman for a Chicago grain firm with headquarters here. He continued with that company until his retirement from business in 1900. He then joined Howell & Webster and remained with them until they retired from the field in 1925. The firm became Corn Products local representatives and Mr. Greene took under his attention the company's corn gluten feed and meal in this territory. He has been with the Corn Products Co. ever since. The Utica office of Corn Products Sales Co. represented by C. R. Dean will take over Mr. Greene's territory.

NORTH DAKOTA

Kathryn, N. D.—A 20-ton, 34-ft. Fairbanks Scale was installed for the Kathryn Farmers Mutual Elvtr. Co. The T. E. Ibberson Co. had the contract.

Bismarck, N. D.—The Monarch Elevator Co. has improved its plant with the installation of a new Howell Steel Boot Tank and a 10 h.p. Fairbanks Morse Motor to power its Howell Direct Connected Geared Head Drive.

Cooperstown, N. D.—The Coopertown Co-operative Ass'n has completed the installation of a new feed mill and operating equipment.

New Rockford, N. D.—Extensive repairs were made recently by the Peavey Elevators, and a new 15-ton Fairbanks Scale installed. The T. E. Ibberson Co. did the work.

Butte, N. D.—Extensive repairs have been made on the Farmers Union Elevator Co.'s plant, including a new driveway with 20-ton 26x9 ft. Fairbank's Dump Scale and Air Flex Lift. The elevator was straightened, its foundation reinforced, the siding repaired and the entire plant painted two coats. Power was changed from engine to electric motors. The Hogenson Const. Co. had the contract.

Garrison, N. D.—Last Spring, the Garrison Farmers' Union Elevator Co. purchased the Osborn McMillan Elevator at this point and also the elevator located at Briar Landing at Missouri River 25 miles from Garrison. The Briar elevator was wrecked and lumber used in construction of a new 25,000-bus. elevator adjacent to the Osborn McMillan Elevator at Garrison. The new plant is used as receiving and cleaning house and the Osborn McMillan elevator is used for storage. A new driveway was built extending the full length of both elevators. Office with full basement is attached to driveway. The new plant was equipped with 20 ton 28 x 9 ft. Howe Dump Scale 76 inch Air Flex Lift, 2 stands of elevating legs, Richardson Automatic Shipping Scale, and a Hart-Carter Cleaner. Hogenson Const. Co. had the contract.

OHIO

College Hill, O.—William E. Vail, 76, retired grain dealer, died at his home Dec. 27.

Delphos, O.—The Garman Grain Co. reported its plant sustained a small loss from high winds recently.

New Washington, O.—The New Washington Equity Co. sustained a small loss from recent high winds.

Grand Rapids, O.—The Grand Rapids Farmers Ass'n recently installed a No. 33 Western Gyrator Cleaner.

Union City, O.—The John Parent Co. on Nov. 11 sustained a small amount of damage at its plant from high winds.

Windsor, O.—The Orwell Milling & Supply Co. feed mill was totally destroyed by fire on Dec. 29. Cause is not known.

Edison, O.—Fire starting from an overheated office stove did some damage to the office of the Edison Mills on Dec. 12.

Hillsboro, O.—The Whisler Grain & Feed Co. has recently installed a sheller and cleaner bought from the Sidney Grain Machry. Co.

Waynesfield, O.—O. H. Pool, manager of the Waynesfield Grain Co., was elected a trustee in the liquidation of the Citizens Commercial Bank, which closed its doors nearly ten years ago, replacing the late J. F. Moser.

Cincinnati, O.—James M. Berry of the Drackett Co. has been called into active army service as a captain in the anti-aircraft service and will immediately join the 39th Coast Artillery at Ft. Crockett, Galveston, Tex.

Willshire, O.—The Farmers Grain Co. has opened its new feed mill. This addition to the company's plant is conveniently arranged, of large capacity, and contains a 50-h.p. hammer mill. Pete Schumm is in charge of the new mill.

Blanchester, O.—The Duke Mills property has been purchased from J. E. Carnahan by the Clinton County Farm Buro Co-op. Ass'n. The new co-operative mill and feed plant opened for business Dec. 23. Clarence Harvey, manager of the Wilmington warehouse of the ass'n for the last several years, is manager of the local branch. Wayne Shidaker formerly managed the plant for Mr. Carnahan.

Sugar Ridge, O.—We recently purchased a Steinlite Moisture Tester from the Seed Trade Reporting Buro. We also have completed extensive repairs in our plants here and at Dunbridge, including a coat of aluminum paint on each.—The Sugar Ridge Grain Ass'n, G. H. Smith, mgr.

Willard, O.—Willard Farmers Exchange installed considerable new equipment including a combined sheller and boot with motor and V-rope drive; large elevator; drag with motor and drive; Eureka Combined Cleaner with motor and drive; several electric motors with drives and an automatic scale, all furnished by the Sidney Grain Machry. Co.

Columbus, O.—The Ohio Grain, Mill & Feed Dealers Ass'n will hold its annual convention June 2-3 at the Deshler-Wallick Hotel. One reason for deciding upon an earlier date this year was to afford opportunity for holding of group meetings thruout the state before harvest. The fall meeting of the ass'n will be held in September at Toledo in conjunction with the meeting of the Grain & Feed Dealers National Ass'n.

TOLEDO LETTER

The Toledo Board of Trade will hold its annual membership dinner Tuesday, Jan. 14, in the Commodore Perry Hotel.

Paul Barnes of the Lansing Grain Co. is rejoicing over being a grandfather. His daughter, Mrs. William Bannister, gave birth to a baby boy Christmas day.

The Great Lakes Division of the National Scale Men's Ass'n will hold a meeting in Toledo, Jan. 17.

O. E. M. Keller, manager of Kasco Mills, Inc., feed manufacturers, is also chairman of the National Affairs Com'ite of the Toledo Chapter of the National Small Business Men's Ass'n. He is interested in the campaign to cut down non-defense expenditures of the Government.

Toledo, O.—George R. Forrester, president, and other officers of the Toledo Board of Trade were nominated for re-election by the board Dec. 30. Others are Milton H. Faulring, first vice-pres.; H. W. Applegate, second vice-pres.; W. A. Boardman, treas., and Alfred Schultz, executive sec'y. The following were nominated as directors: J. H. Bailey, P. M. Barnes, C. S. Coup, A. C. Hoffman, C. R. Keilholtz, O. E. M. Keller, D. L. Norby, C. E. Patterson, S. L. Rice and L. J. Schuster. All except Mr. Norby were directors of the board during the last year. Single nominations for the arbitration and appeals com'ites also were made. Election of officers, directors and com'ite members was held at the board headquarters Jan. 6 when the above named officers and directors were elected.

OKLAHOMA

Oklahoma City, Okla.—The Hardeman-King Co. sustained an electrical damage loss recently.

Minco, Okla.—E. C. Wegener Grain Co. recently bought a Sidney Regular Corn Sheller.

Oklahoma City, Okla.—An itinerant merchant bill will be introduced in the 1941 session of the Oklahoma legislature, Jesse Robinson, chairman of the State Advisory Com'ite of the Associated Producers & Distributors, sponsors of the proposed legislation, stated. The bill requires that the gypsy peddler buy a license to operate as an itinerant merchant; that he give bond to insure the payment of sales and other taxes due the state; that he post a surety bond to indemnify the public against fraud on his part; that he carry public liability insurance to guarantee the payment of damages for personal injuries and property loss due to negligence in the operation of his truck. The bill would not include merchants hauling goods to or from an established place of business; trucks operated for hire under Interstate Commerce Commission or Oklahoma Corporation Commission license; and persons hauling goods for their own consumption or personal use.

Enid, Okla.—Burglars broke into the Hacker elevator office on Lahoma road recently, taking only a few pennies as loot.

Woodward, Okla.—Construction of a co-operative terminal storage elevator here in the near future has been proposed by C. H. Kirkwood of Mutual. The elevator would have a storage capacity of from 250,000 to 500,000 bus. of grain and would cost approximately $50,000. It would be similar to the Vici elevator.

PACIFIC NORTHWEST

Almota, Wash.—The Farmers Elvtr. Co. recently installed a new motor.

Milwaukie, Ore.—Milkiewa Feed Mills has been opened here. M. S. Shrock, well known Oregon feed man is sec'y of the firm.—F. K. H.

Palouse, Wash.—William Frederick Chalenor, 80, pioneer grain dealer, died here on Christmas day from a heart attack. For 24 years he operated one of the leading retail feed establishments in Palouse.—F. K. H.

Coppei (Waitsburg p. o.), Wash.—The 22,000-bu. elevator built for the Eaton Sisters, Misses Ruth and Gladys, along the Northern Pacific trackage, was completed early this fall. The grain tank is 30 ft. high and 30 ft. in diameter.

Portland, Ore.—Robert R. Enloe has assumed duties as manager of the ship department of the Continental Grain Corp. with headquarters here. He recently returned from Spokane where he served six months as assistant manager for Continental.—F. K. H.

Salem, Ore.—The Oregon Ass'n of Truckers, of which A. C. Anderson of the General Feed & Grain Co. is chairman, plans to introduce a bill in the legislature thru Rep. Earl Hill, asking for a three-man truck commission; eliminate all P. U. C. mileage tax, monthly reports and payments; private carriers will pay $5 a ton based on carrying capacity; special carriers will pay $5 a ton; contract and common carriers will pay $10 a ton based on carrying capacity; freight and brokers and forwarders will pay a license fee only. Special carriers will operate by a set tariff; said tariff to be set up after a series of public hearings by the commission.—F. K. H.

PENNSYLVANIA

Meshopen, Pa.—Kintner Milling Co. recently remodeled its plant. A molasses mixer was installed complete with a heating unit.

SOUTH DAKOTA

Yankton, S. D.—Riley Arneson installed a Kelly Duplex Vertical Feed Mixer, ton capacity with motor drive.

Florence, S. D.—A new 15-ton, 22 ft. scale was installed at the Pacific Grain Co.'s elevator. The T. E. Ibberson Co. had the contract.

Pierpont, S. D.—A new 15-ton scale was installed recently for the Pacific Grain Co. The T. E. Ibberson Co. had the contract.

Florence, S. D.—Fire which apparently originated in an open type electric motor did some damage in the Pacific Grain Co. elevator on Dec. 28.

Jefferson, S. D.—The Farmers Elevator Co. has improved its driveway with the installation of a set of Howell Improved Sectional Steel Dump Grates.

Columbia, S. D.—A new 20-ton, 28 ft. Soweigh Scale and a Strong-Scott Dump were installed in the Farmers Elevator here. The T. E. Ibberson Co. had the contract.

Nunda, S. D.—Fire of undetermined origin on Dec. 25 destroyed the Independent Elvtr. Co.'s elevator and adjacent buildings. The property was operated by McCabe Bros. of Minneapolis, Minn.

SOUTHEAST

Ononcock, Va.—A feed store has been opened in conjunction with the Farmers Produce Co. Owners of the firm are W. C. West, Jr., and H. P. West.

Decatur, Ala.—Construction of the new plant of the Nebraska Consolidated Mills Co. is almost completed. Machinery is now being installed. The mill will be operated under the trade name of the Alabama Flour Mills. Henry Glade of the Omaha sales staff of the Nebraska Consolidated Mills Co. will be manager of the new plant. He will make his headquarters here. Horner & Wyatt designed and are supervising construction of the plant.

Tampa, Fla.—A grain warehouse of the Tampa Union Terminal was destroyed by fire the afternoon of Dec. 8, together with its contents of grain and sacks of beet pulp. The loss was estimated between $40,000 and $50,000. The fire is believed to have been caused by spontaneous combustion. Officials of the Waterman Steamship Co., which leased the warehouse, stated the fire would not hamper the company's handling of cargoes as it had ample warehouse space for storage purposes.

TENNESSEE

Springfield, Tenn.—Fire of undetermined origin badly damaged equipment at the Bell-Dowlen Flour Mills Christmas night.

Nashville, Tenn.—The Purina Mills has awarded a contract for the construction of an office building, costing $40,000. The building will be 36x75 ft., of metal on frame, concrete foundation.—J. H. G.

Memphis, Tenn.—The annual election of the Memphis Merchants Exchange will be held Jan. 11. H. L. McGeorge, now vice-pres., is unopposed for president, receiving all of the votes in the nominating primary. Harry B. McCoy is also without opposition for second place on the ticket.

Leoma, Tenn.—The Lindsey Grist Mill's corn house was destroyed by fire recently. Fast work on the part of the Lawrenceburg fire department and residents here prevented the flames from spreading to surrounding buildings which housed two mills and a large quantity of seed corn. The burned building will be replaced at once.

TEXAS

Hereford, Tex.—The Fraser Milling Co. has installed a natural gas engine for its power plant and a new feed mill now under construction.

Perryton, Tex.—The new 250,000-bu. elevator of the Perryton Equity Grain Co. is completed. The $50,000 elevator, built this fall and to be ready to handle the 1941 wheat crop next summer, towering 148 ft. above the street level, is Perryton's highest structure. It is a fireproof concrete elevator, and will be equipped with machinery to load wheat at the rate of a railroad car every 20 minutes.

WISCONSIN

Balsam Lake, Wis.—The Nelson Feed Store was badly damaged by fire on Dec. 29.

Chili, Wis.—W. J. Spry & Sons plant was heavily damaged by high winds on Nov. 12.

Superior, Wis.—James F. Dunning, 70, a former millwright for Cargill, Inc., retiring 3 years ago, died Dec. 24.

Marshfield, Wis.—The Farmers Co-operative Produce Co. sustained a loss from a small fire in its garage on Dec. 10.

Milltown, Wis.—The Milltown Co-operative Produce & Shipping Ass'n has voted to consolidate its co-operative store with its feed store.

Milwaukee, Wis.—The rate of interest for the month of January, 1941, has been determined by the finance com'ite of the Milwaukee Grain & Stock Exchange at 5%.

Superior, Wis.—Charles Diffor, 80, for many years an inspector for the Wisconsin Grain and Warehouse commission, died Dec. 10 in a Duluth, Minn., hospital.—H. C. B.

Madison, Wis.—Bad weather delayed construction of the Master Feed & Seed Co. warehouse, located on the I. C. trackage. The building will be used only as a warehouse. The company is a subsidiary of the McMillen Feed Mills of Ft. Wayne, Ind.

Manitowoc, Wis.—The Wisconsin Malting Co. has under construction an addition to its germinating unit at the local plant, being built by the Hamann Const. Co. on the site of the old office, which was taken down. The addition is of brick and concrete construction, 30x102 ft. and 48 ft. high.

Milwaukee, Wis.—According to a report by H. A. Plumb, sec'y of the Milwaukee Grain & Stock Exchange, a total of 2,222,687 bus. of grain was shipped from Milwaukee to Buffalo, N. Y., and Canadian ports during the 1940 season just closed on the Great Lakes. A total of 1,446,998 bus. was shipped from Superior, Buffalo and Port Arthur to Milwaukee. The shipments consisted of 312,490 bus. of wheat and 1,910,197 bus. of corn. Receipts were 702,381 bus. of wheat, 183,413 bus. of barley and 261,204 bus. of rye.

After the President had vetoed the Logan-Walter bill to protect the rights of citizens against the burocracy the House voted to re-enact the measure by 153 to 127, lacking the two-thirds majority to override a veto.

The proposed Great Lakes-St. Lawrence seaway and power project has come to front again in the guise of national defense. President Roosevelt has indicated progress in negotiations between Canada and the United States in this connection. Galveston, Tex., business interests have adopted a resolution of protest, pointing out that such a "seaway" cannot be "in the public interest."

Will Promote Consumption of Rice

By James H. Glass

Stuttgart, Ark.—Petitions are being circulated seeking the enactment by the Arkansas legislature of a measure creating a commission for the development of a nation-wide program for advertising rice, and thereby increasing the consumer demand for the product.

The measure to be introduced is almost a duplicate of the law enacted by the Louisiana legislature at its last session, and of a bill that will be introduced in the coming session of the Texas legislature.

A commission, composed of growers and millers from Arkansas, Texas, and Louisiana, would have the authority to levy a processing tax of two cents per hundred on milled rice to defray the cost of promoting the consumption of rice through advertising.

War a Hazard in Grain Trade

By Ted Brasch, Nez Perce, Idaho

The Fox Grain Co. of St. Louis, Mo., which operated the Central elevator, an 850,000 bushel storage plant, is liquidating its assets and will cease operations in the next few days as a result of the loss of its European markets by the war.

Another incident that proves how hazardous the war is to our market, came to light last week. A few days before Italy entered the war, a contract was signed at the Pacific coast for 2,000 tons of wheat. The delivery was to be made immediately to Italy. The boat was loaded and was about mid-ocean when the news came that Italy had entered the war.

The insurance company covering the cargo ordered the ship to return. The boat returned immediately and remained anchored in first one harbor and then another. Now, after charges have accumulated up to $25 a ton for freight, insurance, handling and storage, the wheat was finally loaded back in the Kerr Gifford terminal.

In spite of all the places in the world to ship grain, no other market could be located in order to prevent sending that cargo back to the Pacific coast.

Argentine Grain Trade Register

By Rodolfo L. Mogni, Buenos Aires

Law 12,253 established that all those dealing in grain had to register with the National Grain and Elevator Commission. Such a Register, created by Law 12,253, as mentioned above, is an entire new practice and is not, as far as we know, applied elsewhere.

The particular method and organization impressed to the Register by the Commission have not made of it a mere list of people dealing in cereals; but, as will be shown, an innovation of a much greater significance.

Indeed, every person registering, should specify which are his activities in the grain trade, that is, if he operates as country dealer, commission merchant, exporter, consignee, miller, etc., and furnish various information regarding the importance of his business, such as capital invested, available facilities for the storage of grain, number and location of the agencies operating on his account, milling capacity, a detailed account of his different commercial activities, etc.

The accumulation of said data gives an exact knowledge of the commercial organization of our grain market, and thereby the Commission was able to establish that at present the number of dealers and agents in the grain trade amounts to 3,130, distributed as follows: 2,121 country dealers, 320 brokers and commission merchants, 157 millers, 75 exporters, and 97 co-operative societies. The rest, such as consignees, warehousemen and elevator operators, manufacturers and processors, mixers, retailers, and other middlemen, are included in other trades.

It should be borne in mind that the above mentioned figure represents all those persons concerned with the grain trade, and not the existing commercial concerns, as the latter exceed the former, due to the numerous branches and agencies they have all over the country.

Northwest Meeting on Blight

Sixty-five grain dealers attending a Durum Blight Meeting in the Minneapolis Chamber of Commerce, Minneapolis, Minn., Dec. 17, under the sponsorship of the Northwest Crop Improvement Ass'n, heard Dr. J. J. Christensen, of the University of Minnesota, explain the organisms that cause blight on grains.

Dr. Christensen named three groups of attacking fungi, i. e., *fusaria, helminthosporium* and *alternarea*. These, he said, are the chief causes of blight. Some members of the *fusaria* and *helminthosporium* groups also cause root rots, and reduce germination.

Principal cause of blight, said Dr. Christensen, is *alternarea*. The spores of this fungi live thru the winter on corn stalks, grain stubble, dry grasses and other refuse. Burning or destroying such refuse helps control outbreaks of blight.

Favorable weather conditions cause serious outbreaks of blight. Dust treatment of seed with products like Ceresan will protect young plants during the seedling stage and get them off to a good start.

Federal Control Extended over All Waterways

The Supreme Court of the United States in the Appalachian Electric case decided that the federal government and not the state of Virginia had authority to specify the conditions under which a dam could be built in the New River.

It had been supposed that the authority of the federal government did not cover streams that were not navigable; and the New River for 59 miles is not navigable in fact; but the Supreme Court held that the feasibility of the use of the river for navigation must be considered.

Justice Roberts, who dissented, said:

"If this test be adopted, then every creek in every state of the Union which has enough water, when conserved by dams and locks or channelled by wing dams and sluices, to float a boat drawing two feet of water, may be pronounced navigable because, by the expenditure of some enormous sum such a project would be possible of execution. In other words, Congress can create navigability by determining to improve a non-navigable stream."

Principles of Itinerant Merchant Legislation

The Associated Producers and Distributors, which sponsored the itinerant merchant laws enacted in Wisconsin, Iowa and Nebraska, is working for the passage of similar measures in the 1941 sessions of the Arkansas, Colorado, Kansas, Missouri and Oklahoma legislatures.

Such legislation should do the following things:

Require every gypsy peddler to buy a license to operate as an itinerant merchant, thus giving the state a degree of control over him.

Require him to give a bond to insure the payment of taxes, including sales taxes.

Require him to post a surety bond to indemnify the public against fraud on his part.

Require him to carry public liability insurance to guarantee the payment of damages for personal injuries and property loss due to negligence in the operation of his truck.

The proposed legislation would not include the following classes:

Farmers hauling and selling agricultural products which they produced.

Merchants hauling goods to or from an established place of business.

Trucks operated for hire under Interstate Commerce Commission or state public service commission license.

Persons hauling goods for their own consumption or personal use.

Field Seeds

Sioux City, Ia.—John Mulhall, 79, former dealer in farm seeds, passed away Dec. 18 from a heart ailment.

La Porte, Ind.—The McMahan Seed Store has been moved to a two-story brick building, purchased and remodeled, with a modernistic front, by Robert L. McMahan.

Cedar Rapids, Ia. — Gholston Wilson Brown, representative of L. Teweles Seed Co., here, entered matrimony with Miss Mary Nye Luberger, of Cedar Rapids, on Dec. 21.

Logan, Utah.—"Velvon, a New Smooth-Awned Barley," titles Bulletin No. 293, of the Utah Agricultural Experiment Station, which describes the variety, and gives yield data.

Macon, Ga.—The Georgia Seedsmen's Ass'n, meeting here Dec. 10 and 11, adopted a proposed state seed bill to subject intrastate sales of seed to the same regulations that apply to interstate seeds under the federal seed act. The proposed bill provides for periodic testing of samples in the state laboratory.

Topeka, Kan.—The Kansas State Chamber of Commerce has recommended legislation to establish a milling and baking laboratory in conjunction with the Kansas state grain inspection department. It expresses conviction that milling and baking tests on new varieties of seed wheat will lead to production of better varieties.

Lima, O.—Benjamin Ackerman, president of The Ackerman Co., passed away of heart trouble at his home here on his 70th birthday, Dec. 17. He entered the seed business in March of 1918, in partnership with Mr. Hyman, and in March, 1925, he purchased the Hyman interests and incorporated The Ackerman Co. Surviving are his son, Sheldon B., associated with the business and well-known in the Ohio wholesale seed trade, and his widow, Leah.

St. Paul, Minn.—The Minnesota Crop Improvement Ass'n has announced entry rules and awards for the annual Minnesota State Seed Show which is sponsored Jan. 20-25 in connection with the annual Farm & Home Week at University Farm. The premium list announces 544 awards in classes for recommended varieties of corn, barley, oats, flax, spring and winter wheat, rye, alfalfa, grasses, soybeans, field peas, clover and other field crops. Entries are in charge of Carl Borgeson, University Farm.

Seed Movement in December

Receipts and shipments of seeds at the various markets during December, compared with December, 1939, in bus. except where otherwise indicated, were:

	Receipts		Shipments	
	1940	1939	1940	1939
FLAXSEED				
Chicago	63,000	51,000	56,000	67,000
Duluth	60,862	145,302	219,562	1,178,126
Minneapolis	407,400	269,400	250,600	103,600
Superior	986,893	727,210	.....	131,403
KAFIR AND MILO				
Hutchinson	84,000	6,000	.....	.....
Kansas City	176,400	105,000	98,400	25,200
St. Joseph	.....	3,000	.....	4,500
St. Louis	40,200	12,600	.....	.....
Wichita	23,400	5,200	10,500	.....
CLOVER				
Chicago, lbs.	990,000	1,014,000	398,000	949,000
Milwaukee, lbs.	396,300	325,820	15,170	31,685
TIMOTHY				
Chicago, lbs.	239,000	597,000	92,000	442,000
Milwaukee, lbs.	90,000	622,965	193,600	91,865

La Crosse, Wis.—Carl G. Rau, former president of the John A. Salzer Seed Co., died recently.

The North Dakota Experiment Station is testing 20 species and strains of native and cultivated grasses for production of pasture and forage under North Dakota conditions.

Washington, D. C.—Thru agreement with the Agricultural Marketing Service of the U.S.D.A., seven state seed laboratories have been federalized to operate as joint federal-state laboratories. These are located at Fargo, N. D.; Lafayette, Ind.; Columbia, Mo.; Sacramento, Cal.; Montgomery, Ala.; Corvallis, Ore., and Washington, D. C. A part of the activities of these laboratories will concern regulation of interstate and foreign commerce in seeds.

Discourage Growing Handsome Wheat of Poor Baking Quality

By A. D. JACKSON, Texas Agr. Exp. Sta.

Luckily for Texas wheat growers, a very large percentage are growing varieties that have good milling and baking qualities and the reputation of Texas wheat among millers should be jealously guarded. However, a serious threat to the maintenance of this reputation is now developing because of two comparatively new hard red winter varieties that have become rather widely distributed but are not yet grown on an extensive acreage. One is Chiefkan, a beardless blackhull; the other is Early Blackhull.

Extensive milling and baking tests conducted by many millers and by state and federal laboratories have consistently shown both varieties to be very inferior in baking quality. An increase in the acreage of either or both varieties could prove very serious because the buyer cannot distinguish seed of these varieties having poor baking qualities from the seed of good varieties and what he buys moves to mills as a mixture.

The only recourse on the part of the millers is to discount or refuse to take wheat from communities or areas growing much Chiefkan or Early Blackhull. The farmer can and should prevent a situation of this kind from arising by growing only varieties of good milling and baking quality.

Since Tenmarq and Turkey have undisputed high baking quality and all variety tests in west Texas and the Panhandle have shown them to be equal or superior in yield to Chiefkan and Early Blackhull, it is believed that wheat growers will readily cooperate with the Texas Wheat Improvement Association, Amarillo, Texas, and other agricultural agencies in their efforts to raise or maintain the quality of Texas wheat.

Reliable sources of pure seed of good quality high yielding varieties of wheat are rapidly being developed through efforts of the Experiment Station and the several cooperating agencies, and any of them would welcome inquiries about sources of pure seed wheat and can give information on practically all phases of wheat production.

Legacy Oats Offered in Illinois

Legacy oats, a new variety developed in Canada and now offered for sale in some of the corn belt states, will be tested in variety trials in 1941, according to the Illinois Agricultural Experiment Station.

Prof. G. H. Dungan, of the University of Illinois College of Agriculture, Urbana, does not anticipate the Legacy oat will prove rust resistant. It is a cross between Banner and Sixty Day, he says, neither of which is rust resistant. Its maturity should prove somewhere between mid-season and early, since Banner is a mid-season oat, and Sixty Day is early.

Prof. Dungan believes that the new Marion oat, which is high yielding, as well as resistant to crown or leaf rust, stem rust and smut, will prove superior, and that Legacy is no more desirable than Columbia, which has swept the oat producing districts of Illinois.

Correspondence from Canadian Department of Agriculture officials to Iowa State College shows that in 13 tests during the years 1935 to 1939, inclusive, Legacy was compared alongside Gopher and Vanguard.

In the Canadian tests Legacy had an average yield of only 68.6 bus. an acre as compared with 72.4 for Gopher and 71.1 for Vanguard. Furthermore, the Canadian officials say that Legacy is susceptible to crown rust, stem rust and both smuts while Gopher and Vanguard are resistant to stem rust.

Consider Seed Laws When Selling Seed Grain

Dealers in seed grain must consider both state and federal seed laws in 1941, says C. H. Schrader, extension weed specialist at University Farm, St. Paul, Minn. State seed laws are backed up by a federal seed act which became fully effective Aug. 9, 1940.

The federal act is intended to regulate interstate and foreign commerce in agricultural seed by requiring standards and proper labeling, preventing false advertising and misrepresentation, and nullifying the disclaimer and non-warranty clauses sometimes used by seedmen to absolve themselves from responsibility. The act supplements and strengthens state seed laws. To the 68 agricultural seeds named in the act, the Sec'y of Agriculture has added 22 to make a total of 90 which are now covered.

The official label on crop seeds now must list: name of the kind, variety or type of seed, lot number, amount of the various weed seeds, noxious weed seeds names, amount of other agricultural seeds and inert matter, the per cent of germination, the month and the year of the official test, the name and the address of the shipper or consignee.

Purdue Corn Show Jan. 13-17

The Indiana Corn Growers' Ass'n has announced the 1940 state and national corn champions will be honored by President E. C. Elliott of Purdue University on Monday evening, Jan. 13, as the opening event of its 1941 corn, grain and legume show. Five hundred members and friends of the ass'n are expected to pay homage to Hoosier champions and enjoy an entertaining program. In the group this year are the Five Acre king, and the State and International grain show champions, including a world corn princess, Beverly Meal, of Waldron.

Ass'n Sec'y K. E. Beeson says that cash prizes of $600 and ribbons and trophies are offered in this annual Hoosier competition as awards to those who can produce and display the finest in grain and legume samples.

Hybrid corn growers will vie with open pollinated exhibitors to determine who can select the finest quality of Hoosierdom's leading crop. The hybrid seed producers have a large number of classes in which to exhibit the many hybrids produced for seed purposes. Classes for yellow and black soybeans, soft winter wheat, and oats bring together an extensive display of leading varieties. State classes for red clover, alfalfa and Korean lespedeza seed complete the adult show.

Club boys compete in special corn classes for the Henry Marshall trophies. Classes have been added for hybrid corn.

The winning samples from the recent International Grain & Hay Show by the world's Corn King, Charles Fischer of Shelbyville, and World's Corn Princess Beverly Meal of Waldron, and reserve champion samples will be on display. Of special interest will be the 25 ear produce of hybrid class in which growers planting hybrid will compete. In this class, many high producers in the Five Acre corn contest, including Paul Kerkhoff of Tippecanoe County, winner of the contest, and Charles Fountain of Lawrence County, winner of second place, are expected to display the kind of corn harvested in the high yielding fields.

Outmoded Soybean Variety Promoted

Purdue University agronomists say that a variety of soybean closely similar or identical to the Midwest soybean has been brought to their attention as selling at prices as high as $25 a bushel.

Claims are made of remarkable yielding ability due to its heavy podding tendency, the agronomists have been informed. The Midwest or Hollybrook was grown in Indiana 15 years ago, but gave way to the Manchu, Dunfield and other varieties that have proved superior.

The Midwest was so late in maturing in Central and Northern Indiana that it was sometimes frosted, and occasionally frozen before it ripened, it is reported. If the variety ripened while the weather was hot, it shattered so much that frequently 50 per cent of the crop was lost before it could be harvested. The variety was inferior for crushing purposes.

Since the number of new soybean growers has increased tremendously in the last ten years, many of them are unfamiliar with the forgotten Midwest variety. When a plant of this variety is found growing more or less to itself in a field of yellow soybeans attention is attracted to its coarse growth with the pods produced in clusters from the base to the tip and it gives promise of far greater performance than it is capable of producing when grown in a full stand.

North Carolina Seedsmen Hold Joint Conference

The North Carolina Seedmen's Ass'n held a two-day joint meeting with the annual North Carolina State Seed Conference at Raleigh, Dec. 12 and 13, under sponsorship of the state department of agriculture and the state college.

OFFICERS elected for the ensuing year were O. Z. Morgan, Shelby, pres.; Stanley Cross, Wilmington, first vice-pres.; F. M. Byrd, Gastonia, second vice-pres.; J. W. Sexton, Rocky Mount, sec'y-treas.

L. N. ALLEN, associate seed technologist from the U. S. Department of Agriculture, told the joint sessions that "the Federal Seed Act makes it impossible to apprehend the unscrupulous seed dealer operating in interstate commerce who cannot be reached by some state control measures." He advocated uniform state seed laws; felt that labeling requirements of state and federal seed laws should be the same.

D. S. COLTRANE, assistant commissioner of agriculture in North Carolina, stressed a need for diversified agriculture within the state, declared "we must produce feed more economically than in the past" and placed a part of the responsibility for cheap forage on the shoulders of the seedsmen.

W. GREYSON QUARLES, Raleigh, retiring president of the seedsmen's ass'n, urged "better seeds for better soils."

LAWRENCE BERRY, Richmond, Va., assistant commissioner of agriculture in that state, and Chovine Sprott, South Carolina's deputy commissioner of agriculture, discussed uniform labeling requirements to conform with the seed laws of their respective states.

DR. G. K. MIDDLETON, agronomist at North Carolina's experiment station, recommended "Crop Varieties for North Carolina."

J. W. WOODSIDE, chief of North Carolina's state seed testing laboratory, set forth the labeling provisions of the North Carolina seed law.

O. F. McCRARY, state college extension worker, led a discussion on the federal seed law, and predicted expansion of the lespedeza seed growing industry in the eastern part of North Carolina.

A banquet the evening of the first day, at which J. B. Kitrell, of Greenville, was toastmaster, was entertained with colored moving pictures of "Lespedeza as a Seed Crop in North Carolina."

W. H. DARST, marketing specialist with the North Carolina department of agriculture, first speaker on the second day's program, continued the lespedeza discussion and suggested grade standards for lespedeza seed. Following him came demonstrations in identifying weed seeds and varieties of crop seeds under the leadership of the department of agriculture and state college representatives.

At the executive session of the seedsmen's ass'n, when the new officers were elected, a resolution was adopted recommending that all sales of seed be exempted from payment of the state retail sales tax. Other resolutions proposed an increase in the number of seed inspectors employed by the state department of agriculture, and enlargement of the personnel of the department's seed laboratory.

Baking of bread from wheat is said to be an invention of the Chinese, who are reported to have begun the milling and baking process about 1998 B. C.

Breeding New Varieties of Sudan Grass

By R. E. KARPER and J. R. QUINBY

Sudan grass, first introduced into the United States and grown at the Texas Agricultural Experiment Station at Chillicothe 30 years ago, has in the intervening three decades become the most important cultivated pasture and hay crop in the Southwest. It is of considerable importance as an annual pasture in many other parts of the nation. This crop has had a romantic history in Texas since its introduction in 1909.

Distribution of a few pounds of seed to five of the best farmers around the Lubbock Station in 1912 laid the cornerstone for the establishment of the South Plains region of Texas as the center of Sudan grass seed production in the United States and it has held that distinction up to the present time. This region was then being cut up from ranches into farms and being brought under the plow for the first time. The soil was virgin and large yields of seed ranging from a thousand to fifteen hundred pounds were not uncommon. The region was free from Johnson grass or other obnoxious weeds and a high quality of seed was soon available for wide distribution all over the United States.

Sudan grass seed sold for three dollars a pound, later for a dollar a pound, and finally settled down to 10 to 20 cents a pound, at which price levels it remained for several years. Demand in more recent years for seed for sowing summer pastures has greatly expanded the outlet for seed. Texas and New Mexico alone produce 40 to 50 million pounds of Sudan seed per year, which is 75 to 80 per cent of the nation's crop. The balance of the seed crop is grown in California, Colorado, Kansas and Nebraska.

This grass has been worth millions of dollars to the agriculture of Texas and the Southwest and recent experiments promise to bring it into even wider usefulness thru the development of improved varieties, inasmuch as experiments have shown that some 4 to 6 months of grazing in most parts of this region will produce gains ranging from a pound to two pounds per day per animal and that under favorable conditions carrying capacity of one cow per acre can be obtained.

Thru recent discoveries by the plant breeders working with sorghums at the Texas Agricultural Experiment Station it has been made possible, thru well-planned experiments of crossing and back-crossing, to produce new synthetic varieties of Sudan grass having valuable economic characteristics not present in the old common variety. A variety of sweet sorghum known as Leoti is being used as one of the parents to cross with Sudan grass with the view of transferring from this sweet sorghum parent into the new Sudan grass strains such valuable characters as sweet stalk, juicy stalk, non-shattering seed habit, a distinctive glume color, and resistance to bacterial foliage diseases commonly known as Red Spot.

The breeding procedure has consisted of crossing Leoti and Sudan grass, selecting plants in the second generation bearing the above mentioned characters and making another cross back to the Sudan grass parent. The first cross results in 50 per cent Sudan grass "blood," the second 75 per cent, and so on until the new strains are, for all practical purposes, pure Sudan grass with the added new characters carried over from the sweet sorghum parent. This breeding work was started only a few years ago but thru the use of both field plantings in the summer and growing a crop in the greenhouse in the winter, it has been possible to grow two generations a year and thus speed up the process. Several hundred selections resulting from 4 to 5 back-crosses to the Sudan grass parent are now being grown in comparative experimental trials in order to determine the best among them so that they may soon be increased for seed distribution to farmers.

These new varieties of Sudan grass promise to greatify simplify the problem of contamination of Sudan grass seed with Johnson grass seed. Johnson grass contamination in Sudan grass seed offered for sale has in recent years become a very vexing problem. Farmers have always had difficulty in determining whether or not Sudan grass seed was contaminated with Johnson grass seed, due to the similarity of these seeds, and no very practical way has been devised even for experts to readily distinguish between them.

It is a long and difficult task for seed analysts to make determinations on Sudan grass seed containing Johnson grass mixture and they will enthusiastically welcome a simplification of this problem. The Leoti sorghum parent used in this plant breeding venture has an attractive sienna-colored glume which is inherited rather simply since it is bound to recur on one plant out of sixteen grown in the second generation. The problem then is to select such a plant that has sweet and juicy stalk together with non-shattering seed habit and cross it back to ordinary Sudan grass, continuing this procedure as long as desirable to get the new strains quite similar to Sudan grass, but with the new characters transferred completely to the new variety.

One of the most fortunate characteristics of this combination is that the new glume color will not only serve as a marker by which to distinguish the new varieties of Sudan grass, but any hybrid mixtures with other sorghums occurring in this new strain will be at once apparent because this particular distinctive glume color will disappear when crossed with any other variety. It will thus be easy to rogue out the hybrids occurring in seed fields. Furthermore, Johnson grass always has a distinct brown glume color with tinges of straw and if a mechanical mixture with Johnson grass occurs such mixture can now be definitely and readily detected by examination of a particular lot of Sudan grass seed.

The Station now has some 300 Sudan grass strains and selections growing in nursery rows, many of which already possess the desirable characters described. It only remains to thoroughly test the better strains in comparison with each other in order to determine which are superior in all respects before seed of the new variety or varieties will be increased for distribution to growers. It is expected that they will be ready for distribution by the spring of 1942, but there will be no seed for distribution before that time.

Arkansas Limits Dodder Seed in Lespedeza

Shippers of lespedeza seed should keep in mind that the seeds of dodder and Johnson Grass may be present in sufficient amounts to make sale of lespedeza seed illegal in Arkansas, warns John E. Casey, Arkansas seed analyst.

Regulations of the Arkansas Plant Board provide that if dodder is present in lespedeza at a rate that exceeds 500 seeds per pound of pure seed, the sale of such seed is illegal. Also, if Johnson Grass seed is present in excess of 25 seeds per pound, the sale of such seed is illegal. The regulations also provide that if lespedeza seed contains between 100 and 500 dodder seeds per pound, the plant board's special permit tag must be attached to the containers of such seed, and that the analysis be given *on the special permit tag*. The same rule holds in the case of lespedeza seed which contains between 5 and 25 seeds of Johnson Grass.

Treated Seed May Be Held for a Year

Ethyl mercuric phosphate on stored seed grain retains its fungicidal value, according to tests at the New York Experiment Station, reported by W. F. Crosier. He says removal of the chemical is unnecessary and practically impossible in either the solid or the vapor form. Neither water nor an air current would separate the fungicide from the seed.

Prolonged storage of properly treated dry seed oats in grain sacks did not reduce their yielding ability, and results from a stock of well-dried wheat, treated and held in store for seven months, showed only a slight decrease in yield due to storage.

The study applied particularly to storage in large warehouses, but the results are believed to indicate that treated seed grain can be held in grain sacks in a barn from one season to the next.

The research staff of the American Farm Buro Federation has made a report to that organization that the administration "thru operation of its multimillion dollar farm programs, had built up large official staffs that threatened to place agriculture under 'costly burocratic control.'"

Grain Carriers

In 1926 the railroads had 2,348,679 freight cars, and in 1939 only 1,650,031.

Columbus, O.—The Ohio Valley Shippers Advisory Board will meet here Mar. 16 and 17.

Chicago, Ill.—The Mid-West Shippers Advisory Board will hold its annual meeting Thursday, Jan. 9, at the Palmer House. The meeting is open to the public.

Cars loaded with grain and grain products during the week ended Dec. 21 totaled 28,047, against 32,702 during the like week of 1939, as reported by the Ass'n of American Railroads.

Philadelphia, Pa.—The Middle Atlantic States Motor Carrier Conference has protested all-commodity rates of 25c between specified stations in New York, and Sears, Pa., in the Philadelphia area, which are proposed by the Central of New Jersey, and the Reading railroads.

Minimum wages of 36c per hour for employes of trunk lines and 33c per hour for short lines, have been prescribed by an order of the wage-hour administration which becomes effective Mar. 1. This order will boost the labor bill of many rail lines, especially on maintenance work.

Pratt, Kan.—Sale and continuance of the Wichita & Northwestern railway was the subject of a recent conference between M. E. Snierson of Salzberg & Co., New York City, and E. E. Kohlwes, sec'y and transportation commissioner; A. B. Craig, vice-president, and A. E. Randle, of the Wichita Board of Trade.

Railroads are accused of interfering with free trade by Kent T. Healy, assistant professor of economics at Yale University, who says: "Motor carriers are faced with rail inspired restriction of free passage of state lines. Should this sort of restriction be widely imposed, it will be a serious threat to the free intercourse between the states which is so fundamental to the success of the Union."

Canadian railways have embargoed movement of grains from interior elevators to the head of the lakes. The embargo order permits acceptance only of grain in transit or in cars at the lake head at the end of December, which was expected to over-tax storage space. Elevators were reserving 2,000,000 bus. of space for tough and damp grain to be handled on special permits issued by the railways at the request of the Canadian Wheat Board.

New York, N. Y.—Evidence was presented at a hearing before the Interstate Commerce Commission here to show that shifts in ocean freight rates on export grain made an existing ⅞c differential in favor of Baltimore and Philadelphia over New York in export grain rail rates from Great Lakes ports. W. P. Hedden, commerce director for the port of New York, said that differences which were in effect a few years ago, no longer exist, and the differential should be removed. Railroads claimed the rate differential was made only in justice to other Atlantic ports.

Argentina.—The Argentine Freight Conference has established a new rate of $12 per ton Buenos Aires to New York for Jan. 15-Feb. 25 loading. This increase of $1.50 per ton is equivalent to 3¾c per bu., compared with the Dec. 15-Jan. 15 rate. Ocean bottoms are scarce and the few available steamers are unwilling to book at prices as low as the new Conference rate. The Argentine Minister of Agriculture is reported considering expropriation of all foreign ships (28 now lying idle) anchored in Argentine harbors to ship grain and meat abroad.—Archer-Daniels-Midland Co., Minneapolis.

Terminology in steam railroad accounting rules, applying to grain elevators, warehouses, and other physical properties, was revised effective Jan. 1, by order of the Interstate Commerce Commission.

The Southern Pacific railroad has relinquished claims to 2,109,000 acres of land due it under government grants to it and the Central Pacific, for the privilege of applying its published tariff rates on government traffic.

The railroad tax bill for 1940 marks the fifth successive annual increase which the railroads have suffered. Since 1935, railroad taxes have risen by more than 70 per cent. With a reduction in 1940, as compared with 1929, of one-third in railway operating revenues, of almost one-half in net earnings before fixed charges, and a reduction of five-sixths in net income after fixed charges, the establishment of a new peak in taxation is a striking illustration of the burdens placed upon the railways.—*Railway Age.*

A. F. Cleveland, vice president of the Ass'n of American Railroads, has petitioned the I.C.C. in fourth section application No. 18830, for authority to establish and maintain between any two points, via any available all-rail or rail-and-water route, the same rate currently effective via another route, without observing the long and short haul clause in section 4 of the Interstate Commerce Act. His purpose is to save the expense of hearings before the Commission for relief from this clause when lower rates over other available routes destroys the business of the rails, and to effect relief more quickly than thru the red tape of hearings, suspensions, and rehearings.

Midwest Railroads Slash Grain Freight Rates

Railroads have been authorized by the Interstate Commerce Commission to slash grain rates 40% from standard on movement of corn, some corn products, and sorghum grains from South Dakota, Minnesota and Iowa points into Nebraska, Colorado, Wyoming, and Kansas corn consuming areas. Similar reductions are to apply from the eastern Nebraska surplus corn territory to Kansas, Colorado and Wyoming points.

This is a sharp step down from the 20% reduction in the same rates allowed following a hearing before the I.C.C. a year ago.

J. A. Little, transportation director for Nebraska's Railway Commission, said the original reduction was intended "to permit the railroads to meet the competition of merchant trucks engaged in buying corn in Iowa and selling it in Nebraska and other states where a corn shortage exists. These reductions did not have the desired effect in meeting the truck competition. The railroads therefore proposed a further reduction which will make the new rates 40% less than the old standard basis."

M.&St.L. Abandonment Leaves Elevators Without Service

Efforts of the Cresbard Grain Co., Cresbard, S. D., and the Akaska Equity Exchange, Akaska, S. D., to prevent dismantling of the Conde-Akaska branch of the Minneapolis & St. Louis railroad thru restraining orders against L. C. Sprague, Minneapolis, receiver for the M. & St. L., and Hyman-Michaels Co., Chicago, purchaser of the salvage from the abandoned branch line, failed on Dec. 14, when Federal Judge A. Lee Wyman dismissed the two cases in federal court. Judge Wyman concurred in the argument of counsel for the M. & St. L. that the Walworth County Circuit Court had no authority to set aside an Interstate Commerce Commission order authorizing abandonment.

Continuance of dismantling of the Conde-Akaska branch will leave without rail service the towns of Akaska, Lowry, Hoven, Tolstoy, Onaka, Wecota, Cresbard, Chelsea, Brentford, and Adelaide. Located at these points are a total of 16 country grain elevators that will have to either abandon grain shipping, or turn to the use of trucks.

Shippers Ask Increase in Ocean Rates

Pacific Northwest shippers of wheat, oats and barley have written the Intercoastal Steamship Freight Ass'n asking that rates on bulk grain to Atlantic-Gulf ports be raised to $7.50 or $8 per ton, with the latter as the top figure, application to be on bulk lots of 500 tons or more. The previous fixed $6 rate expired Dec. 31.

The $6 rate was fixed two years ago. Since then World War II got under way and resulted in rapid withdrawal of ocean bottom space from offerings for grain carriage in favor of commodities offering more attractive rates.

Shippers believe that an increase in rates will increase offerings of space for grain and encourage greater movement of west coast grains to Gulf and Atlantic coast ports.

Final Hearings on Chicago Barge Case to Open

Final hearings before the Interstate Commerce Commission on allowance of re-shipping rates east on Illinois Waterway barge carried grain, will open in Washington, D. C., Jan. 8.

Chicago grain receiving interests with water front elevators (Continental Grain Co., Rosenbaum Bros., Santa Fe Elevator Corp., Norris Grain Co., Edward R. Bacon Grain Co., and Cargill, Inc.) has filed with the Commission thru Walter, Burchmore & Belnap, a 154-page brief taking exception to findings recommended by I.C.C. Examiner R. G. Taylor that railroads be permitted to deny out-going proportional rates on grain reaching Chicago by barge from Illinois River points.

The brief points out that since Examiner Taylor's proposed report in docket 4718 was issued, Congress enacted the Transportation Act of 1940. The brief says:

We have a national transportation policy declared which must be considered by the Commission in disposing of this case, since . . . the sole purpose of the increases on ex-barge grain proposed by respondents in this case is to handicap and disadvantage barge service into Chicago. On the face of it, such a proposal is designed to offset the inherent advantages of low-cost barge transportation to Chicago by means of an arbitrary and wholly unwarranted rate penalty on ex-barge traffic when reshipped therefrom to the east. Such a proposal will not serve the end of developing, co-ordinating, and preserving a national transportation system by water, highway, and rail, adequate to meet the needs of the commerce of this nation; rather it will do just the opposite.

The exception brief states general principles under which rail carriers may legally apply re-shipping rates lower than local rates on barge carried grain, among them being:

While the commercial storage of grain at the end of an unregulated water haul prior to reshipment via rail is not the same as storage-in-transit under an all-rail rate, nevertheless the privilege of reshipment upon a rate less than the local, despite such storage, may be lawfully accorded, and such storage may be broadly referred to as a transit privilege.

As to grain received inbound by unregulated barge line or lake vessel, stored and reshipped by rail, the inbound water move may be physically separate and distinct from the outbound rail move, and there may be no common arrangement for continuous carriage; but nevertheless, it is entirely legal for rail carriers to provide rates on the reshipment of such traffic which are less than local rates, provided proper railroad tariffs are filed.

When a proportional rate is used as a factor in making a thru rate on an all-rail interstate shipment, it is legally applicable only when all rate factors are subject to the Commission's jurisdiction. This is not true, however, when a reshipping rate less than a local is applied on ex-water traffic which reaches the port of reshipment by either a common carrier or a contract carrier by water. In such a case, the reshipping rate is in the nature of a proportional and is legally applicable, even though the rate charged on the inbound movement by water is not on file with or subject to the Commission's jurisdiction.

Feedstuffs

Popcorn is ground into feed for calves by Thos. J. Searcy, a feeder, south of Madison, Mo.—P. J. P.

Minneapolis, Minn.—The January meeting of the Northwest Feed Mfrs. & Distributors Ass'n will be held Jan. 21 at the Curtis Hotel, with Ed Cashman as chairman.

A distributor of condensed buttermilk feed has brought out a vitamin admixture that replaces cod liver oil, other fish oil, wheat germ or wheat germ oil and dried whey in poultry washes. It replaces a portion or all of the dried milk.

Washington, D. C.—The Ass'n of Feed Control Officials has changed the definitions of milk products as follows: "That the present definitions for dried skim milk and dried buttermilk be modified to the extent of adding the word 'feeding' after each designation." In making your registration of milk products for 1941 with the various states the word "feeding" will have to be shown after the word "milk" or "buttermilk."—American Feed Manufacturers Ass'n.

Wage-Hour officials are advising the feed trade that the Act covers certain types of operation. Employes in a feed mill handling commodities from outside the state are covered by the wage and hour provisions of the act, even tho these commodities are subsequently sold only within the state. One exception to this ruling is in the case of agricultural commodities received from outside the state, and in which case the mill is shown to be performing only the "first processing operation within the area of production." This exemption would come under the "season exemption" provided within the Act for a period of 14 work weeks in any one year, allowing work up to 56 hours a week without payment of overtime during that period.

Feed Prices

The following table shows the closing bid price each week for January futures of standard bran and gray shorts, cottonseed meal and spot No. 1 fine ground alfalfa meal, in dollars per ton, and No. 2 yellow corn and No. 2 yellow soybeans in cents per bushel:

	Minneapolis Spot		Kansas City	
	Bran	Midds	Bran	Shorts
Nov. 2.....	20.50	20.00	19.85	21.60
Nov. 9.....	21.00	20.75	20.70	22.20
Nov. 16.....	23.25	23.00	20.20	21.60
Nov. 23.....	22.00	21.50	20.15	21.75
Nov. 30.....	22.00	21.50	20.45	21.90
Dec. 7.....	22.00	21.50	19.80	21.45
Dec. 14.....	21.00	20.50	19.65	21.25
Dec. 21.....	21.00	20.50	19.60	20.75
Dec. 28.....	20.75	20.50	19.40	20.40
Jan. 4.....	21.25	21.00	19.70	20.85

	St. Louis*		Chicago	Decatur
	Bran	Shorts	Soybeans	Meal
Nov. 2.....	22.90	23.50	88¼	24.00
Nov. 9.....	23.85	24.15	95¼	25.00
Nov. 16.....	23.50	23.90	104½	27.00
Nov. 23.....	23.10	23.25	100⅛	28.00
Nov. 30.....	23.60	23.85	101½	28.00
Dec. 7.....	23.00	23.10	95⅝	28.00
Dec. 14.....	22.90	22.90	91	26.50
Dec. 21.....	22.70	23.00	93¼	.....
Dec. 28.....	22.50	22.35	97¼	24.00
Jan. 4.....	22.85	22.75	100⅞	25.50

	Cottonseed Meal		Kansas City	Chicago
	Ft. Worth	Memphis	Alfalfa	Corn
Nov. 2.....	33.00	25.50	22.20	64
Nov. 9.....	33.00	27.60	22.20	65¼
Nov. 16.....	34.00	28.50	22.20	68
Nov. 23.....	35.00	28.15	22.20	65⅝
Nov. 30.....	36.00	27.35	22.20	65½
Dec. 7.....	36.00	27.35	22.20	62⅛
Dec. 14.....	36.00	26.50	22.20	61
Dec. 21.....	35.00	26.75	22.20	62
Dec. 28.....	35.00	27.50	22.20	63⅛
Jan. 4.....	35.00	28.50	22.20	65½

*St. Louis bran basis Chicago delivery; shorts St. Louis delivery.

Pig Crop Smaller in Corn Belt

Fall pig production in the Corn Belt is 8% smaller than a year ago. Total production of spring and fall pigs this year is estimated at 7% below the total reported for 1939. It is expected that the number of sows to farrow in the coming spring in the Corn Belt will be 5,231,000 head, which will be a decrease of 12% from the 1940 spring farrowings.

Farmers report that the fall pig crop for the United States is 28,587,000 head which is 4,100,000 head less than the number of pigs saved last fall, a decrease of 12.5%. A further reduction in U. S. hog production is expected with the number of sows to farrow next spring now estimated to be 14% smaller than the number which farrowed in the spring of 1940. —U.S.D.A.

Effect of Drying on Carotene

The biological value and true digestibility were determined for the proteins of artificially dried grass (300 degrees) as 67 and 66, for artificially dried grass (170 degrees) 62 and 65, and for sun-cured grass 52 and 64, in an experiment at the National Institute for Research in Dairying, by S. Bartlett, K. M. Henry, S. K. Kon, L. W. Osborne, S. Y. Thompson, and J. Tinsley.

The differences in the biological value of the proteins from artificially dried grasses and hay were highly significant, while other differences were not. Samples of the grass artificially dried at high temperature, at low temperature, and in a current of hot air, sun-cured, and dried without sun at air temperature, contained 86.7, 78.1, 89.4, 25 and 31.5 per cent, respectively, as much carotene as found in the fresh grass.

Low Protein Content of Millfeeds

The past two or three months the Millers National Federation has had quite a bit of correspondence from soft wheat millers who in turn are being called to account by feed control officials in the South because their millfeeds are running low in protein this year. This is a fairly general condition, due to the fact that the 1940 crop of soft wheat turns out millfeed which is lower in protein than normal, and in some cases runs lower than the standards fixed by the state authorities.

Correspondence and direct contacts which the Federation has had with feed control officials in the South lead to the conclusion that the situation is now pretty well understood by these officials and that millers are not likely to be harassed to any great extent. Letters that were rather sharp in tone were written to more than a few mills earlier in the crop, but now that the officials realize that the wheat and not the miller is at fault it is likely that little more will be heard about the matter except in the cases where the fibre content is higher than normal. Millers who are trying to mend the low protein content of feeds by adding screenings will not improve their reputations with the authorities, and may very likely be inviting a good bit of extra trouble for themselves.

Feed control officials appear to be willing not to fuss about a protein deficiency due to the peculiarities of the 1940 wheat crop, but they do object strongly to any adulteration of such feeds with inferior substances. This sounds reasonable.—The Hook-Up.

Safflower Production Winning Interest in Southwest

H. E. Emery, manager of the Deming (N. M.) Oil Mill, which began in early December, production of its seasonal run of cottonseed cake, has attracted considerable attention thru promotion of safflower cultivation as a winter crop. Safflower is a thistlelike Old World plant with large orange-colored flower heads used in production of dyes and drugs.

"The cotton control program may have helped the farmers, but it has had just the opposite effect on the operators of oil mills," says Mr. Emery. "The oil mills are now unable to secure enough cotton seed to keep their mills running at anything like capacity.

"These oil mill operators are now casting about for new oil crops, which accounts for their growing interest in safflower, which yields an oil which has great possibilities for various uses, and is now much in demand by manufacturers of paints and lacquers."

Vitamins in Soybeans

In view of the wide use of soybeans (*Soja max*) and cowpeas (*Vigna sinensis*) as food for both man and animals, and the relative scarcity of data concerning their vitamin A activity and vitamin B_1 content, it seems desirable to publish the results of assays made on several varieties of these leguminous seeds.

The available results of vitamin assays of these seeds have been compiled by Daniel and Munsell and by Fixen and Roscoe.

Nine common varieties of soybeans and eight of cowpeas, 15 and 10 samples respectively, were purchased from a seed store and assayed by the rat-growth method for their vitamin-A activity and vitamin-B_1 content.

The results show that none of these varieties of soy beans or cowpeas contain appreciable quantities of vitamin A. The soybeans contain 3.2 to 4.8 International Units of vitamin B_1 per gram and the cowpeas 2.3 to 3.7. There are no marked differences between varieties.—North Carolina Agricultural Experiment Station.

Processing Temperature Affects Protein

"The temperature employed in the manufacture of a product may be a factor which affects quality," declared Dr. R. M. Bethke, of the Ohio Agricultural Experiment Station, Wooster, at the University of Georgia Nutrition School. Temperature does not materially affect the amount of protein present, he said, but it does affect its feeding value.

At the Ohio station, for example, it was noted that the protein in a fish meal produced at a low temperature had a digestion coefficient of 96% and a biological value (feeding value) of 91% in contrast to values of 86% for the protein in a fish meal made from the same raw material but dried at a considerably higher temperature. Obviously, the low temperature fish meal had greater actual feeding value than the high temperature meal, even tho the total protein content of the two meals was comparable. Excessive temperature can also affect adversely the vitamin content and may, in some instances, affect the feed in other respects not yet known.

Altho temperature is destructive in certain instances, it can also prove beneficial. This is particularly true in the processing of soybean oil meal and cottonseed oil meal. Research work has revealed that soybean oil meal which has been subjected to proper heat treatment to give it a mild roasted or nutlike flavor is of greater feeding value for poultry and pigs than a similar raw-tasting meal produced at a lower temperature. In case of cottonseed meal, proper heat treatment will remove the dangers of "gossypol poisoning" when the meal is fed in liberal quantities to certain species of animals.

Urea Substitutes for Protein in Calf Feeding Trials

E. B. Hart, G. Bohstedt and M. I. Wegner of the University of Wisconsin, have completed three years of experimental work with feeding urea (a simple nitrogen compound which chemists have learned to prepare from synthetic sources at low cost) as a substitute for protein from natural sources. These studies have in mind the costs of feeding livestock, since synthetic nitrogen in the form of urea costs only from one-fourth to one-third as much as equivalent amounts of nitrogen in the form of protein supplements now commonly used as feed ingredients.

A promising measure of success was achieved in the first experiments with four male calves. This experiment showed that two of the calves receiving supplements of urea and ammonium bicarbonate, respectively, in addition to a low-protein ration, grew faster than one getting the protein deficient ration only, altho they did not quite match the rate of growth of the animal receiving milk protein as a feed supplement. Analyses proved the tissues of all the calves to be of similar composition.

Another trial used six heifer calves and corroborated the previous findings, demonstrating that the calves benefited from addition of simple nitrogen compounds to low-protein rations. This experiment further demonstrated that these nitrogen compounds did not injure the kidneys of the animals receiving them, except when feeding of the supplement was far in excess of normal consumption. Only the animal given 4.3 lbs. of urea in each 100 lbs. of ration suffered kidney injury visible to the naked eye; while the kidneys of the calf given 2.8 lbs. of urea per 100 lbs. of ration showed slight injury under careful examination. The kidneys and livers of calves receiving 1.4 lbs. of urea in 100 lbs. of ration showed no injury whatever, which was reassuring since smaller quantities than this are needed to balance rations for calves under farm feeding conditions.

Feeding trials with 24 dairy cows were begun in April of 1939, in a further effort to learn whether nitrogen compounds may be used to reduce the cost of producing milk. The next few years work with these animals is expected to prove whether use of urea as a substitute or partial substitute for more expensive proteins in feeding dairy cows is practical.

So far only ruminants have demonstrated ability to use chemical urea as a food, and experimental work with these have been confined to dairy animals, altho it is presumed that sheep and goats will be able to use it. Trials by the experimenters have shown that chicks, guinea pigs, and rats cannot use simple forms of nitrogen.

The theory is that ruminants, or four-stomached animals, can use urea because certain forms of bacteria in the rumen, or first stomach, uses the nitrogen for growth, converting it into protein and in turn being digested in the alimentary canal. The contents of the first stomach of ruminants are alkaline, giving a reaction of about pH 7.8, possibly from mixture with saliva when the cud is chewed. Saliva is distinctly alkaline, with a pH of about 8.4.

The stomach of single-stomached animals is acid, which is believed to be a less favorable environment for development of the necessary bacteria for conversion of urea into protein. Further, it is thought that food does not continue long enough in the digestive process in single-stomached animals for conversion to take place.

Experiments with storing dairy feeds containing urea have proven successful, altho it was thought that the urease in grains, an enzyme which breaks down urea into ammonia and carbon dioxide, would cause loss of some of the nitrogen in the form of gas. Nine experimental batches of feed consisting of corn, oats, 1% urea, and one supplement, consisting of soybean meal, cottonseed meal, linseed meal, wheat gluten, corn gluten, wheat middlings, or wheat bran, kept in storage, and analyzed at the end of one month, showed no loss of nitrogen. This led to the conviction that ordinary feeds will hold full urea content so long as they are kept dry.

Hay Movement in December

Receipts and shipments of hay at the various markets during December, compared with December, 1939, in tons, were:

	Receipts		Shipments	
	1940	1939	1940	1939
Boston	495	319	.....	.....
Chicago	2,176	2,338	502	410
Kansas City	2,336	1,092	224	120
St. Louis	48	72	24	60

Enzymes and Vitamins

By JAMES B. SUMNER, Cornell University, Ithaca, N. Y., before Cornell Nutrition School.

Enzymes are biochemical catalysts. They make life possible by making chemical reactions go on. We employ 17 enzymes to digest our food. We use them to build up tissues, to detoxicate poisons, to produce energy and heat, to carry on life phenomena. Enzymes are able to act without being used up. They are present in all living things, but occur in small concentrations.

The animal cannot synthesize the oxidizing enzyme unless it is fed the vitamin. Some of the vitamins and the enzymes synthesized from them are: Vitamin Fed: riboflavin, thiamin, nicotinic acid. Enzyme Formed: yellow enzyme, co-carboxylase, co-enzymes I and II.

In 1933 several groups of workers discovered that riboflavin is identical with vitamin B_1, or G. Riboflavin occurs in several oxidizing enzymes besides the yellow enzyme.

Carboxylase enzyme occurs in yeast and acts upon pyruvic acid to form acetaldehyde and carbon dioxide. The acetaldehyde is next reduced to ethyl alcohol. Without carboxylase there could be no alcoholic fermentation, but it must be understood that many other enzymes are involved in the fermentation of sugar. In 1932 Auhagen discovered that carboxylase requires a co-enzyme for its action. He called this co-carboxylase. Lehmann and Schuster isolated co-carboxylase in 1937 and found it to be the pyrophosphate of vitamin B_1, or thiamin. Peters *et al.* have shown that the brain of the B_1—deficient pigeon cannot oxidize pyruvic acid. Unlike the yeast plant, animals employ co-carboxylase in order to oxidize pyruvic acid instead of converting it into acetaldehyde and carbon dioxide. Peters and his associates have found that the B_1—deficient pigeon brain shows inability to oxidize pyruvic acid. The reader will wonder what the difference is between an enzyme and a co-enzyme. The co-enzyme is a relatively simple substance which attaches itself to the enzyme and aids in the reaction. Usually, co-enzymes are stable substances.

After a large amount of work both co-zymase and Warburg's co-enzyme have been found to contain phosphoric acid, adenine, d. ribose and nicotinic acide amide. The co-zymase contains two molecules of phosphoric acide, while Warburg's co-enzyme contains three molecules. In 1937 Elvehjem *et al.* found that nicotinic acid is a part of the vitamin B complex and demonstrated that it will cure pellagra. Animals require both co-zymase and Warburg's co-enzyme for the action of many enzymes concerned with tissue oxidations.

Certain oxidizing enzymes destroy vitamins. Vitamin A is formed by animals from alpha, beta and gamma carotene, also from Kryptoxanthin. These carotenes, together with kryptoxanthin are spoken of as pro-vitamins A. Both vitamin A and pro-vitamins A are readily oxidized and thereby destroyed. Two years ago we became interested in an enzyme which is employed commercially to bleach wheat flour and produce white bread. This enzyme occurs in the soybean. In the presence of oxygen and water a small amount of soy meal will oxidize carotene rapidly. In the absence of the enzyme carotene may require days or weeks to oxidize. Later, our researches showed that the enzymes will oxidize carotene only if it simultaneously oxidizes some unsaturated fat and that pure carotene is not affected at all. The reaction is therefore a coupled, or induced reaction, and the enzyme in soy meal should not be called "carotene oxidase" but "fat oxidase," or "lipoxidase."

When fat goes rancid not only vitamin A and provitamins A are destroyed, but also vitamin E. Feeding cod liver oil to herbivorous animals causes muscle degeneration and death, as Agduhr and later McCay *et al.* have shown. This is caused by the lack of vitamin E. Why carnivorous animals are better able than herbivorous to tolerate cod liver and other oils is unknown. It is probable that the lipoxidase above referred to can bring about the oxidation of vitamin E thru the preliminary oxidation of unsaturated fat.

Nearly every organic compound on earth as well as a few inorganic compounds are built up by enzymes and are broken down by enzymes. If we wish to preserve our vitamins we must take enzymes into consideration and learn about their habits.

Feedstuffs Movement in December

Receipts and shipments of millfeeds at the various markets during December, compared with December, 1939, in tons, were:

	Receipts		Shipments	
	1940	1939	1940	1939
Baltimore	2,642	3,320	.....	.....
Boston	4,630	610	.....	.....
Chicago	13,365	10,814	47,288	38,875
Kansas City	10,775	6,075	22,125	20,950
Milwaukee	100	200	10,400	11,360
Minneapolis	.....	.....	23,650	.....
Peoria	10,180	9,180	14,900	14,200

Dried Whey Successful Feed Supplement

Dried whey containing 90% of dry matter, 9% of digestible crude protein, and from 67% to 68% of total digestible nutrients was successfully fed as a supplement to the regular ration to pigs and dairy heifers, providing the daily intake per animal did not exceed about 0.5 kg. of the whey, according to experiments reported in *Biedermanns Zentbl., Abt. B., Tierernähr,* by H. Bünger, E. Fissmer, W. Harre, H. Schmidt, K. Boehm, and F. Reising.

Larger quantities in the diet tended to depress the appetite of the animals.

The presence of dried whey in the ration increased the water consumption of both the pigs and the dairy heifers.

Poultry Feeds and Feeding

Lafayette, Ind.—Stanley J. Marsden, poultry husbandman handling turkey investigations for the U. S. Buro of Animal Industry, has been billed to talk on "What We Know About Turkey Feeding," at Purdue University's Agricultural Conference, Jan. 13-17. He is expected to explain nutritional requirements of turkeys and methods of feeding to produce best results at minimum cost.

Washington, D. C.—A substantial rise in egg prices and a small decline in feed costs resulted in a decline in the feed-egg ratio at Chicago in early December, reports the U. S. D. A. The number of eggs required to buy 100 lbs. of poultry feed at Chicago during the week ended Dec. 14 was 4.75 dozens, compared with 6.63 dozens a year earlier and 5.90 dozens for the week ended Nov. 9. Continuation of the favorable feed-egg ratio is expected to lead to production of more chickens in 1941.

Protein Feeds for Growing Chicks

Six experiments to study the supplemental value of fish meal, meat and bone scrap, cottonseed meal, soybean meal, peanut meal, liver meal and linseed meal are reported by R. M. Sherwood and J. R. Couch of the division of poultry husbandry at the Texas Agricultural Experiment Station.

The chicks used were White Leghorns and New Hampshires of similar breeding fed in batteries for 10 weeks from hatching time. The data developed warranted conclusions as follows:

Vacuum-dried fish meal gave the best results of any of the protein feeds studied when used as a supplement to any two other protein feeds used in the study. The chicks grew more rapidly and produced gains with a smaller amount of feed when the fish meal was fed than when it was not fed.

Liver meal did not prove to be a satisfactory substitute for vacuum-dried fish meal.

When vacuum-dried fish meal is used to make up 6% of the chick ration, the remaining 12% of the protein concentrates may be made up of meat and bone scraps, soybean oil meal, or cottonseed meal using 6% of each feed.

Peanut meal was not a good substitute for cottonseed meal or soybean oil meal in the chick rations studied.

Old process linseed oil meal, when used as a partial substitute for soybean oil meal or cottonseed meal, produced poorer gains and the amount required to produce a unit of gain in live weight was higher than when the linseed oil meal was not used.

Rations containing 6% of vacuum-dried fish meal and 5% of choice dehydrated alfalfa leaf meal were not improved by the addition of vitamin G supplied by dried whey.

The use of a ration containing 1% of dried whey and 6% meat and bone scraps, 6% cottonseed meal, 6% soybean oil meal and 5% choice dehydrated alfalfa leaf meal resulted in greater gains than did the same ration not containing dried whey.

Neither mortality nor perosis (slipped tendon) was a factor in these experiments. The rations were not extreme enough to cause losses; they were also fortified by wheat gray shorts and the proper mineral balance, so perosis (slipped tendon) did not develop.

Soybean oil meal and cottonseed meal were about of equal value when fed with the other protein supplements used. Neither peanut meal nor old process linseed oil meal gave as good results as soybean oil meal or cottonseed meal.

Dried whey, a rich source of vitamin G, produced more rapid gains in a ration containing no vacuum-dried fish meal, but did not cause more rapid gains with a ration containing 6% of vacuum-dried fish meal. Both of these rations contained 5% of choice dehydrated alfalfa leaf meal.

From 3.0 to 3.6 units of feed were required to produce a unit of gain in live weight. These figures are of value in helping a prospective producer in estimating the feed cost of growing chicks to 10 or 12 weeks of age. Similar results should be secured from the better commercial feed mixtures and formulas.

Vitamin D Requirements of Ducklings

Comparable groups of White Pekin ducklings, raised in batteries, were fed a starting diet of normal mineral content with graded levels of U.S.P. reference cod liver oil to supply, respectively, 0, 20, 30, 40, 50, 60, 70, and 80 U.S.P. or A.O.A.C. chick units of vitamin D per 100 grams of feed, in an experiment reported by James C. Fritz, Wallace Archer, and Donald Barker, at the Elgin Research Laboratories of the Bordon Co.

Thirty chick units produced maximum calcification of the bones, as measured by the percentage of ash in the dry, fat-free tibiae at three weeks of age. The rate of growth of all groups was above the accepted standards for the breed.

This test work was repeated using the A.O.A.C. thick test diet, with the diets equalized at a high level of vitamin A by the addition of a purified vitamin A ester. A carefully standardized fish oil concentrate was used to supply, respectively, 0, 20, 25, 30, 35, 40, 80, and 120 A.O.A.C. chick units of vitamin D per 100 grams of food. Thirty units of vitamin D again produced maximum calcification as measured by bone ash determination at three weeks of age.

It is concluded that the vitamin D requirements of White Pekin ducklings are approximately the same as those of chicks, and 30 A.O.A.C. chick units of vitamin D per 100 grams of food will produce optimum calcification.

Vitamin B_1 and Manganese

Vitamin B_1 and manganese are interdependent in feeds, each counteracting the toxic effects of the other, according to experiments reported by D. Perla and M. Sandberg in the *Experiment Station Record.*

Rats receiving normal adequate diets and a large excess of vitamin B_1 exhibited interference with the capacity of the mother to rear her young and with the nursing instinct. These toxic manifestations were prevented by the addition of small amounts of manganese to the diet.

Further studies confirmed these observations. With an excess of 400y of vitamin B_1 given parenterally, the toxic manifestations were pronounced in the parent generation but became progressively worse in the F_1 and F_2 generations, the young in the latter case being neglected and eaten in over 90 percent of the litters.

The addition of manganese to the diet at the level of 2 mg. per rat per day prevented these toxic manifestations over three generations. At the level of 0.5 mg. per rat per day the manganese was apparently even more effective. Without any excess of vitamin B_1, supplements of manganese alone in amounts of 2 mg. per rat per day interfered with lactation and favored cannibalism, particularly after one generation.

It is inferred that manganese acts as an essential catalyst in oxidative processes in which vitamin B_1 is concerned. The vitamin B_1 requirement of an animal varies with the manganese content of its diet.

Turkey Finishing Mashes Tested

Comparing three types of finishing mashes for fattening turkeys from 18 to 30 weeks of age, one containing 32% protein, two containing 20% but one of these supplemented with 3% dehydrated molasses, and each supplemented with a scratch mixture of whole wheat and barley, T. H. Jukes, of the California Experiment Station found all rations produced satisfactory gains.

The average gain in 12 weeks ranged from 9.5 to 10 lbs. for males and approximately 5 lbs. for females. The consumption of scratch grain was relatively much higher with the high protein mash so that the protein content of

the total feed consumed was 18.2% as compared with approximately 16% on the lower protein mashes.

The feed required per unit of gain and feed cost per pound of gain was very similar for the three rations.

Vitamin B Fractions

By Dr. C. A. Elvehjem, University of Wisconsin, before Cornell Nutrition School.

[Continued from page 466 of Nov. 27 number]

The second factor, riboflavin, has the most complex chemical structure of any of the known B vitamins. It is also available in synthetic form but the synthetic product is somewhat more expensive than that in natural feeds or concentrates. In contrast to thiamin, riboflavin is rather unevenly distributed in nature. Seeds are very low while the leafy parts of plants, milk, and animal tissues, such as liver and kidney, are very rich sources.

Great progress has been made in the development of assay methods for riboflavin. Both the chemical and bacteriological methods save a great deal of time and should allow extensive riboflavin assay on all feeds. We have found excellent correlation between the results obtained by the rat assay and the Snell and Strong microbiological assay, and Hodson and Morris have obtained comparable results by the fluorometric, photometric and microbiological methods. Schumacher and Heuser have shown further correlations between the photometric and chick assay methods.

RIBOFLAVIN is known to be a component of several enzyme systems in the animal body. This fact probably explains why we see such a variety of symptoms associated with an inadequate intake of this factor. We have found a definite decrease in the d-amino acid oxidase content of the livers from animals suffering from riboflavin deficiency, but we do not, of course, know how this correlates with any of the external symptoms.

When we consider the requirement for riboflavin we must again recognize that ruminants may synthesize riboflavin to such an extent that it does not need to be supplied in the diet. In fact McElroy and Goss found 60 times as much riboflavin in the rumen contents from sheep as in the ration given to the sheep.

For non-ruminants the requirement is probably 200 to 300 gamma per 100 grams ration. A figure in this range was first suggested by the Cornell workers for chickens and further work has shown that these figures apply to many other animals. We have recently shown that 200 gamma per 100 grams is hardly sufficient for growing dogs while 400 gamma per 100 grams gives excellent growth. Hughes concludes that the minimum riboflavin requirement for the young growing pig lies between 1 and 3 mg. per 100 pounds pig daily. This is approximately 100 to 300 gamma per 100 grams ration, which is in the range with values for other animals.

It is not difficult to get this amount of riboflavin in an average ration if milk products, meat products, or green leafy forage is used, but if grains make up the bulk of the ration some additional source of riboflavin must be used. If pure riboflavin is used at a cost of $3 per gram, the above amount would cost $8 per ton. The importance of knowing the riboflavin content of supplements rich in this factor is therefore obvious, because they may not only be a cheap source but may carry other factors in addition to riboflavin.

NICOTINIC ACID, the third member of the B complex, has a rather simple structure and is a very stable compound. It is a component of two very important coenzymes, cozymase and coenzyme II, and must, therefore, be present in most biological material; however, from a nutritional point of view only animal tissues, yeast and perhaps a few plant materials such as peanuts, can be considered rich sources. Until a year ago the only reliable method for the determination of nicotinic acid involved the use of dogs. During the past year several workers have demonstrated the reliability of the cyanogen bromide method. Some difficulty is still encountered in the case of grains since they contain substances which give the same color with cyanogen bromide as nicotinic acid does.

We have shown a definite decrease in the cozymase content of liver and muscle from both dogs and pigs during nicotinic acid deficiency. However, changes in cozymase are of no diagnostic value since the changes in the blood are insignificant. Apparently there are many species that do not need nicotinic acid in their diet. Ruminants do not, since synthesis in the rumen content has been shown and Pearson has raised normal sheep on diets very low in nicotinic acid. In addition rats and chicks have been reared on diets very low in this vitamin.

Humans, monkeys, dogs, and pigs definitely need nicotinic acid. In these animals the optimum daily intake is 0.2 to 0.5 mg. per kg. body weight, or about 2 to 3 mg. per 100 grams ration. It is obvious, therefore, that a diet made up largely of corn, which contains 1 to 2 mg. per 100 grams, will not allow an adequate intake. Birch and coworkers reported that pigs did somewhat better when the corn in their diets was replaced by 20 parts of wheat and 63 parts of barley, but optimum growth was not obtained.

We now know that wheat and barley contain more nicotinic acid than corn. Milk supplements do not add any appreciable amounts of nicotinic acid and soybean meal is almost as low in this vitamin as corn. One of the significant sources in hog rations has undoubtedly been tankage or meat scraps, but with the greater demand for liver many of these products carry a reduced amount of nicotinic acid.

Preliminary values indicate that certain samples of tankage may contain as low as 7 to 10 mg. nicotinic acid per 100 grams. Thus a level of 20 to 25 per cent of these products would be needed to supply the requirement. It is, therefore, not surprising that nicotinic acid deficiency has been reported by Davis, Freeman, and Madsen and Madison, et al., in pigs on rather typical farm rations. The question of fortifying rations for pigs with nicotinic acid needs serious and extensive study.

PYRIDOXINE. — The structure of the fourth member of the B complex, vitamin B_6 or pyridoxine, is related to that of nicotinic acid. It is also widely distributed in nature but quantitative values for different feeds are rather limited. The older methods for the bioassay of pyridoxine, which depend on the cure or prevention of acrodynia in rats, may give erroneous results unless very carefully controlled.

The older assays indicated grains to be a very good source of this factor but improved methods have not verified these results. During the past year we have used a bioassay which depends entirely upon growth in rats and results obtained by this method are more reliable. Corn by this method contains 5 gamma, yeast 40 gamma, liver 10-20 gamma, and kidney 20-30 gamma per gram.

The specific function of pyridoxine in animal metabolism is not known, altho rather specific symptoms have been associated with a lack of this factor in several species. The acrodynia in the rat has been known for some time and in 1938 Fouts et al. noted a deranged blood picture in dogs deprived of vitamin B_6. Chick and coworkers described a similar syndrome in pigs together with typical epileptic fits as the deficiency increased. Both the blood picture and the nervous symptoms were alleviated by the administration of vitamin B_6 although it is possible that the picture was complicated by other deficiencies.

(To be continued)

Two Meal Collectors for Same Hammer Mill

Anyone driving by the feed plant attached to the driveway of the iron-clad elevator of the Farmers Elevator Co. at Holstein, Ia., would think it had two hammer mills.

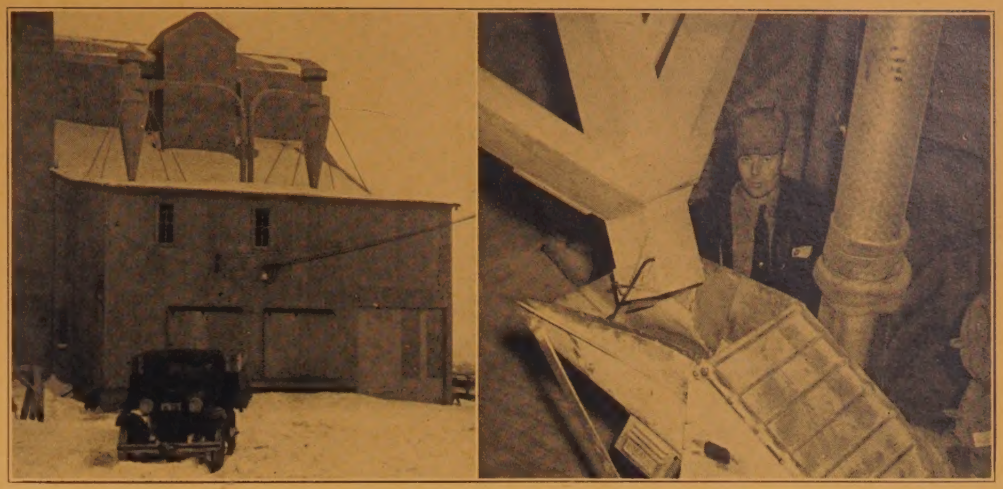
Mounted over the shed-type roof are two comparatively small meal collectors. But inside the 26x40 ft., two-story, frame, iron-clad structure is a single 75 h.p. Jay Bee hammer mill, driven by a Westinghouse motor thru multiple V-belts.

The hammer mill is set on the workfloor of this building since the building has no basement except for a 4 ft. high foundation which leaves room under the floor for storage of fencing, posts, and similar retail merchandise.

On the second floor of the building the wind trunking from the hammer mill is divided into two half-size ducts that lead to the meal collectors. A butterfly valve, shifted by ropes from the floor below, diverts the lift of ground products to the pre-selected meal collector.

The reason for two meal collectors is the location of the 9 bins which are built on the second floor of the 40 ft. long structure. Three bins, with capacity for 150 bus. each, are located at one end of the building to hold ground products for mixing into the company's own brands of poultry, hog, and cattle feeds. One meal collector serves these three bins. The bins have sacking spouts on the workfloor to which portable spouts may be attached to drop their contents into the feed leg of a one-ton horizontal mixer, driven by a 10 h.p. motor.

At the opposite end of the second floor are three more bins of 300 bus. capacity each. These are the custom grinding bins served from the other meal collector. They are located over the 12x26 ft. "back-in" pocket used for loading trucks with bulk grinding. Slides in their hopper bottoms are opened to drop ground products direct into trucks backed under them.



Left: Feed mill of Farmers Elevator Co., at Holstein, Ia., has two meal collectors. Right: Manager L. E. Fallein shows how spouts from three garner bins come together at throat of hammer mill.

Next to these bins on the second floor are three garner bins, with capacity for 300 bus. each, which are used to store whole grains for grinding. These bins are filled from the adjacent elevator. Bulk grains for grinding are dumped in the elevator driveway, elevated by the leg and spouted to the selected bin or bins in the feed plant from the elevator head.

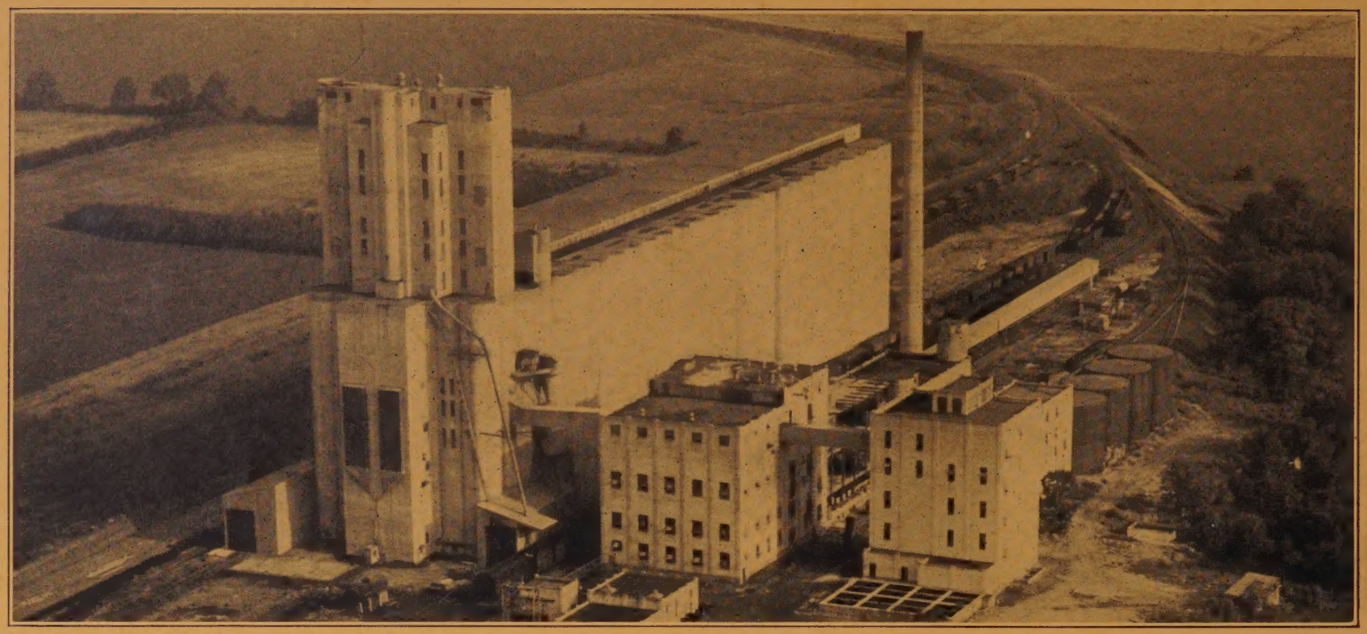
Spouts from these whole grain bins come together at the throat of the hammer mill on the mill workfloor. The cut-off valves controlling the flow of grain from the bins are located at the points where the spouts join the hopper bottoms of the bins, and wooden handles, hinged to the joists under the second floor, control these valves. When the whole grain bins are filled with different grains, and these valves manipulated dexteriously, almost any mixture of grains desired can be run into the hammer mill simultaneously.

Both the whole grain bins and the meal bins have their hopper bottoms lined with sheet metal to provide a smooth surface that insures complete drainage of their contents.

Feed grinding and mixing is a new venture for the Farmers Elevator Co. at Holstein. An opening day was held recently to show farmers of the locality the new plant.

The company operates two grain elevators. One is the 15,000 bu. cribbed elevator, to the driveway of which the feed grinding and mixing plant is attached. The other is an adjacent 55,000 bu. reinforced concrete elevator where most of the grain is handled.

"We might have saved a little by putting up only one meal collector over the feed plant and using a turn-head under it," says Manager L. E. Fallein. "But the two rows of meal bins are quite a way apart. Two meal collectors have proven satisfactory."



Archer-Daniels-Midland Co. Plant, Decatur, Ill.

WE are glad for this opportunity of publicly expressing appreciation for the thoughtful attention and loyalty of our field organization headed by J. Wolflin, general superintendent; F. S. Simmons, ass't mgr. in charge of purchases and work coordination, and J. J. Waechter, in charge of plans, in their unstinted efforts to realize the completion of this plant on schedule time. Thru fine cooperation and interest in workmanship, we have been able to please the Owner, The Archer-Daniels-Midland Co., in the completion of this, our eighth major project for them.

We also appreciate the service shown by that unorganized branch of the McKenzie-Hague Co. consisting of those firms supplying equipment, supplies, and materials.

J. B. Ehrsam & Sons Mfg. Co.
Industrial Electric Co.
The Day Co.
Woare Builders Supply Co.
Laclede Steel Co.
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McKENZIE-HAGUE CO.

DESIGNERS AND BUILDERS

MINNEAPOLIS **CHICAGO**